Flashcard Example Questions

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Introduction - 1

Please note:

- Some of the questions have been revised, corrected, by the provider of these flashcards
- Some of the questions come from outside sources that may or may not actually contain exactly a question that appeared on a prior Part 107 exam
- The important feature here is to challenge you to think about the exact wording of a question or scenario and then look at the wording in the multiple choice answers
- Comments are added reflect Part 107 information and in many cases are added information is intended to help everyday issues for drone pilots
- Our apologies for anything misspelt, inaccurate, or needing an update (possibly due to the third party source used to provide you these examples)—this content will periodically be reviewed and updated

Request to all users of the flashcards

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We hope these test questions will be helpful!

Please help anyone else to obtain the Flashcards (Note Cards) or the Test Question Cards by referring them to the web link listed here that introduces the flashcard and test question availability:

https://www.windowview.org/zfaa/

Special Request: please don't just send the files to someone else.

First, because the option to give a donation is helpful and in recognition of the effort to make these resources available.

Second, files may be updated since you obtained these files.

Flashcard Version (this set of cards): June 2023 - v1.0

Test Question Card Instructions

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- **First**, you can select the 'Study' or 'Multiple Choice' mode to take the test.
- Each card will present the question and multiple choices.
- After making a choice you can see the correct answer and any added comments.
- **Second**: You can indicate if the question is '**easy**,' '**unsure**,' or '**hard**' and if hard that question will appear again to help you concentrate on getting a question right in the future.
- **Third**: In edit mode in full version of Flashcard Hero you can add new cards, add notes to an existing card, or revise in any way you wish to the file on your computer.
- **When done with a 'study' test**, you can reset the test by selecting "Clear Study Statistics."
- Remember to download the FAA supplement document to see full size sectional charts at link below:
- https://www.faa.gov/sites/faa.gov/files/training_testing/testing/supplements/sport_rec_private_akts.pdf

Part 107 Test Percent by Subject Area

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Questions are covering each topic area in approximately the following percent distribution (which may vary a bit test to test)

I – Regulations 15-25%
II- Airspace 15-25%
III- Weather 11-16%
IV- Loading & Performance 7-11%
V – Operations 35-45%

This set of Flashcards covers all topic areas in somewhat a random order, currently with more than 350 questions (more may be added over time)

TEST QUESTIONS APPEAR NEXT

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Turn on **STUDY**

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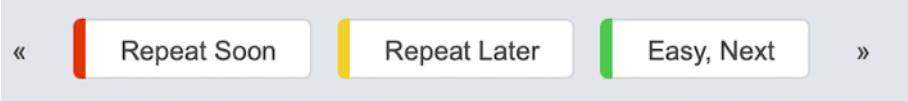
On a computer: Remember, you can click on "**Easy**," "**Unsure**," or "**Hard**" on the iPhone and that will help certain cards / questions to be brought back to try again.

On the computer use the following:



When done with a test, you can select all the card titles on the left sidebar to clear all statistics and that will reset the test to allow you to revisit the entire set of questions from the start.

Click on the answer you choose, next Check Answer and then click on the arrow '>>' to see next question

Part 107 applies to:

6

- Civil and public small UAS operations
- Civil small UAS operations (x)
- Public UAS operations

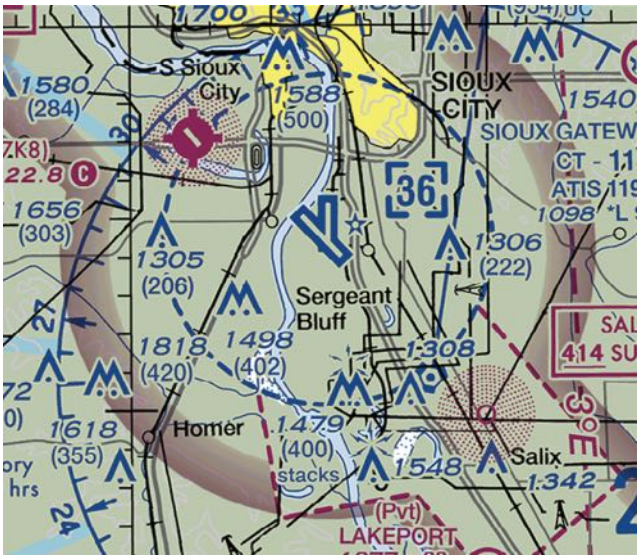
NOTE: There are other example test questions that imply Part 107 only applies to Civil and a choice for 'Civil and Public' is incorrect. You might think you are also a member of the public! BUT CFR 14 Part 107 Applicability states: "Except as provided in paragraph (b) of this section, this part applies to the registration, airman certification, and operation of **civil** small unmanned aircraft systems within the United States. This part also applies to the eligibility of civil small unmanned aircraft systems to operate over human beings in the United States."

https://www.ecfr.gov/current/title-14/chapter-I/subchapter-F/part-107

According to 14 CFR part 107, what is the maximum groundspeed for a small UA? 7

- 87 knots (x)
- 87 mph
- 100 knots.

(Refer to FAA-CT-8080-2H, Figure 78.) You have been contracted to inspect towers located approximately 4NM southwest of the Sioux Gateway (SUX) airport operating an unmanned aircraft. What is the maximum altitude above ground level (AGL) that you are authorized to operate over the top of the towers? 8



- 400 Feet AGL.
- 402 feet AGL.
- 802 feet AGL. (x)

[NOTE: This is Class D airspace and seems to require a COA to operate there. Technically get a 400ft+ waiver and a COA to operate within 400ft of a structure. In other locations, under 107, if you are within 400ft of the structure you can go up to 400ft above the top of it (402 AGL is what the map says) which makes it 802 AGL.]

Class B = Solid Blue Line

C = Solid Red

D = dashed blue

E = dashed red

E = red line with haze inside floor at 700 feet; blue line with haze inside floor at 1200 feet

A small UA causes an accident and your crew member loses consciousness. When do you report the accident? 9

- No accidents need to be reported.
- When requested by the UA owner.
- Within 10 days of the accident. (x)

What increases the load factor on a fixed wing airplane? 10

- Power off stall
- Level turn (x)
- Steady state climb

[When an aircraft goes into a level turn, the load factor on the wing is increased. This is because in order to not lose altitude, the pilot has to "pull back" on the controls to keep the nose up, and this increases the stress on the airplane]

What is the purpose of 14 CFR part 101 ? 11

- Regulations for hobby or recreational use of unmanned aircraft. (x)
- Flying a drone for commercial purposes
- Quadcopter flying for relaxation

Reading Part 101 reveals this applies to balloons, rockets, kites, which are other types of unmanned flying or moored objects. Take a look at Part 101 here:

https://www.ecfr.gov/current/title-14/chapter-I/subchapter-F/part-101

This is not the same type of regulation as Part 107

Which aircraft must be registered with the FAA prior to operating in NAS? 12

- Any aircraft up to 65 pounds
- An aircraft including drones weighing 0.55 to 55 lbs. (x)
- UA up to 55 lbs.

It appears that if you fly a drone for recreational purposes this answer is correct, however, if flying under Part 107 you will need to register a drone at any weight—i.e., even below the 0.55 lbs.)

How old must you be to register an unmanned aircraft? 13

- 18 years of age
- 16 years of age
- 13 years of age (x)

Which registration requirements must you satisfy for commercial operations? (What Parts to CFR 14?) 14

- Only Part 107
- Part 101 and 107
- Part 47 (x)

Part 47 includes … The unmanned aircraft (UA) serial number provided as part of any application for aircraft registration of any standard remote identification unmanned aircraft must be the serial number issued by the manufacturer of the unmanned aircraft in accordance with the design and production requirements of part 89 [see link below] of this chapter. The serial number provided in this application must not be listed on more than one Certificate of Aircraft Registration at the same time.

https://www.ecfr.gov/current/title-14/chapter-I/subchapter-C/part-47

as well as

PART 89 - REMOTE IDENTIFICATION OF UNMANNED AIRCRAFT

https://www.ecfr.gov/current/title-14/chapter-I/subchapter-F/part-89

What is the purpose of CFR 14 Part 48? 15

- REMOTE IDENTIFICATION OF UNMANNED AIRCRAFT
- REGISTRATION AND MARKING REQUIREMENTS FOR SMALL UNMANNED AIRCRAFT (x)
- MOORED BALLOONS, KITES, AMATEUR ROCKETS, AND UNMANNED FREE BALLOONS

Excerpts from Part 48 - This part provides registration and identification requirements for small unmanned aircraft that are part of a small unmanned aircraft system

The fee for issuing or renewing a Certificate of Aircraft Registration as described in § 48.105 is $5.00 per certificate.

Registration renewal. A Certificate of Aircraft registration issued under this part expires 3 years after the date of issue unless it is renewed.

CFR 14 Part 48

https://www.ecfr.gov/current/title-14/chapter-I/subchapter-C/part-48

When do you need a Foreign Aircraft Permit? 16

- None required if registered elsewhere
- Contact the FAA for a waiver from registration requirements
- If registered in a foreign country (Owned, controlled or operated by someone who is not a U.S. citizen or foreign resident) (x)

Be aware that if someone is visiting the US, then this is the answer. However, if you travel to a another country with a US registered drone, be sure to contact the foreign government about their requirements and limits of flying a drone.

The registration marking on your UAS must be what? 17

- A unique identifier number, Legible and Durable, Visible or Accessible (x)
- A unique identifier number and printed on a registration card you keep on hand while flying
- A unique identifier number, Visible or Accessible

You are operating a 1280 g quadcopter for your own enjoyment. Is this small UAS operation subject to 14 CFR part 107? 18

- Yes Part 107 applies to many purposes when flying a drone
- No, this small UAS operation is not subject to part 107 because of RECREATIONAL USE. (x)
- No, because this weight is lower than Part 107 requirements

Actually 1280 g is 2.8 pounds, because 453.59 grams equals a pound.

You have accepted football tickets in exchange for using your small UAS to videotape the field before and after the game. Is this small UAS operation subject to 14 CFR part 107? 19

- No. Commercial ventures are where you are paid in any amount of currency
- Yes. Accepting compensation (the tickets) makes the venture a commercial venture. (x)
- Tickets are items not subject to Part 107

Having Part 107 certification offers a level of assurance that you won’t run into complications or problems if you ever share a video with someone else that might then use that video for any purpose other than recreational use.

You plan to operate a 33lb small UAS to capture aerial imagery over real estate for use in sales listings. Is this small UAS operation subject to 14 CFR part 107? 20

- No, this is too heavy to be considered a small UAS.
- An aircraft of this weight needs an FAA waiver for this kind of use.
- Yes. this is a commercial venture. (x)

A person who holds a current remote pilot certificate with a small UAS rating and has the final authority and responsibility for the operation and safety of the small UAS is a _____ . 21

- A Remote PIC (x)
- Aircraft pilot
- Crew member

NOTE: many test answers will focus on PIC (Pilot in Command)

Define the "Person manipulating the controls" 22

- A person controlling the small UAS under direct supervision of the Remote PIC (x)
- A person controlling the small UAS instead of a PIC who is joining this person later in the day
- A responsible person controlling the small UAS who smart and needs no supervision of any kind

The implication here is the 'person in control' is someone without certification, but for example flying a drone that is not theirs and not simply flying their own registered drone for recreational purposes.
Define the "Visual observer"

Who is a "Visual observer?" 23

- Someone who has come along to watch you fly your aircraft or drone for the afternoon
- A person acting as a flight crew member to help see and avoid air traffic or other objects in the sky, overhead, or on the ground. (x)
- Any person somewhat nearby who is looking at you fly.

Responsibilities of the Remote PIC include 24

- The advantage of flying a UA to relieve stress from family matters or a bad day at work
- Being careful when flying close and just over a stadium full of people who are attending a sports event
- Ensure that the operation of the aircraft poses no undue hazard to people, aircraft, or property in the event of a loss of control of the aircraft for any reason (x)

Here is a more complete listing:

1.) Be designated before each flight (but can change during the flight)
2.) Ensure that the operation:
-Poses no undue hazard to people, aircraft, or property in the event of a loss of control of the aircraft for any reason
-Complies with all applicable regulations of part 107
3.) Operate the small unmanned aircraft to ensure compliance with all applicable provisions

A non-certificated person may operate the small UAS under part 107 if: 25

- Part 107 for commercial purposes absolutely requires each person has the 107 certification.
- He / She is directly supervised by the Remote PIC and the Remote PIC has the ability to immediately take direct control of the small UAS. (x)
- It's okay if you have your Part 107 and have registered the drone and a friend wants to go somewhere and fly with your permission.

What is the role of the "Visual Observer"? 26

- To alert the rest of the crew about potential hazards during operations involving a small UAS. (x)
- Visual observers can be positioned to see the UAS continuously and take notes on flight progress
- You are not allowed by Part 107 to have more than one visual observer

Actually, if you have more than one observer that is called a "**daisy chain**" and all the observers should be able to communicate with the PIC.

Otherwise, the idea is …

To alert the rest of the crew about potential hazards during operations involving a small UAS. Visual observers must be positioned to see the UAS continuously and be able to effectively communicate to remote PIC.

As a Part 107 certified PIC, what are some tools that you can use to improve your situational awareness and risk based aeronautical decision making (ADM)? 27

- GPS, weather briefing, ATC requirements, FAA, landowners, local pilots (x)
- Simply check B4UFLY app on your smartphone
- Preflight checklist and a good battery charger for your drone

If you are a recreational flyer, **B4UFLY** is important, but not the total package of flight preparation under 107, and a preflight checklist and fully charged batteries are great, but not all the tools that make for a successful or sound approach to flying under 107.

The 5 hazardous attitudes 28

- Anti-Authority, Impulsivity, Invulnerability, Machoism, Resignation (x)
- Fatigue Stress, Impulsivity, Invulnerability, Harassment, Compliance Rejection
- Anti-Authority, Emotional weakness, Invulnerability, Machoism, Resignation

Sometimes the word 'Macho' will be used in place of 'Machismo.'

What answer best fits the approacdh to good crew resource management (CRM)? 29

- The effective use of all available resources—human, hardware, and information—prior to and during flight to ensure a successful outcome of the operation. (x)
- The PIC only needs crew resource management techniques during flight of the UAS.
- Consulting a psychologist about hazardous attitudes

Take a look at the following:

The Remote PIC must integrate crew resource management techniques into all phases of the small UAS operation.

Crew resource management techniques in all phases of the small UAS operation include:
1.) delegation
2.) recognizing and addressing hazardous attitudes
3.) establish effective team communication procedures

Who is responsible for ensuring that there are enough crew members for a given small UAS operation? 30

- The ATC contact person
- Remote Pilot in Command (Remote PIC) (x)
- FAA advisory committee

That is … if you have a need for a crew. Flying nearby within line of sight and according to other FAA regulations often times does not require added crew members when flying under Part 107.

Whose sole task during a small UAS operation is to watch the small UAS and report potential hazards to the rest of the crew? 31

- The PIC
- The Visual observer (x)
- The local law enforcement staff

Remember, local law enforcement may approach you during or after a flight. Being able to fly responsibly and show your registration card and the Part 107 certification card is most helpful. Added recommendations include having a copy of any applicable NOTAM, your flight log you use to document every flight, pre-flight checklist, and any emails you might have obtained from a county, town, recreational park, state park, or landowner that provided you their okay to fly over a particular location. And remember, anyone who confronts you about flying a drone may be nicely impressed if you can share how responsible you are before and when flying your aircraft / drone.

Which crew member must hold a remote pilot certificate with a small UAS rating? 32

- All crew members need the certificate to support the flight
- Remote Pilot in Command (Remote PIC) (x)
- The PIC and Visual Observer both

And remember, the FAA now has a simple test called T.R.U.S.T. for recreational flyers! T.R.U.S.T. does not cover commercial use of an aircraft, just recreational flying.

Who is ultimately responsible for preventing a hazardous situation before an accident occurs? 33

- The FAA
- The Part 107 enforcement staff
- Remote Pilot in Command (Remote PIC) (x)

Should you fly a UAS with pending maintenance problems? 34

- Yes, if the aircraft is able to takeoff and land then maintenance can follow at a later time
- Yes, as long as all is cleared by your pre-flight checklist
- No. Complete all required maintenance before each flight—preferably in accordance with the manufacturer's instructions or, in lieu of that, within known industry best practices. (x)

What is not one of the 4 elements of Preflight Inspection? 35

- Maintain documents required in the event of an on-site FAA inspection
- Inspect the UAS to ensure it is in safe operation
- Allowing crew members to decide on their role after initiating the UAS flight (x)
- Assessing the Operating Environment (weather, location of people, flight restrictions, etc.)
- Allowing crew members to decide on their role after initiating the UAS flight

The corrected statement is: Informing crew members of their operation and roles

In the event of an on-site inspection, what documents are required? 36

- Pilot Certificate, Aircraft Registration, Driver’s license, Other documentation related to the operation
- Pilot Certificate, Aircraft Registration, Necessary waivers, authorizations, and exemptions, Other documentation related to the operation (x)
- Aircraft Registration, Necessary waivers, authorizations, and exemptions, Other documentation related to the operation

Always have your registration card with you. A driver’s license might be requested, but that is added identification beyond flight requirements and a Pilot Certificate might be all that is required for a quick check in may cases. However, it’s best to be able to provide all other information (listed in the correct answer) that might apply depending on where you fly.

Factors that may require a reduction in weight prior to flight, include: 37

- High density altitude conditions, surface, slope, wind, obstacles, runway area length (x)
- Flying over people in recreational areas
- Low density altitude conditions and high ceiling cloud cover

Common performance characteristic of an overloaded aircraft 38

- Enhanced rate of climb
- Reduced maximum altitude (x)
- Longer flight distance
- Better maneuverability

Is a small UAS allowed to carry hazardous material? 39

- Yes
- No (x)
- Maybe

Are spare lithium batteries allowed to be carried as cargo on a small UAS 40

- No. They are considered as hazardous material if they are not in use. (x)
- Yes, as long as the aircraft is not over loaded by weight
- Okay if ATC clearance is provided

Consider this, lithium batteries are best kept in pouches or bags designed to safely confine lithium batteries when being transported or stored in your residence. There is a need to manage battery charge levels for times when stored and to prevent possible fire hazards. Check with an airline in advance if going on travel and use a storage pouch or bag for added protection and being allowed to bring onto an airplane.

Which of the following is a danger due to wind when flying a UAS? 41

- Obstructions on the ground can reduce turbulence for low flying UAS
- High winds may make it difficult to maintain geographical position and may consume more battery power (x)
- Low wind speeds reported for gust levels prohibit flight

Buildings and other structures can actually cause more turbulence nearby and if you use the 'UAV app' or other source that reports wind gust speeds you may actually decide that level of wind at any given location exceeds the ability of your aircraft or drone to fly during any given hour or on any day. And the UAV Forecast app, for example, also reports wind speeds at different altitudes. Flying up to 100 feet may be okay, but then over 200 feet might be risky!

What is a convective current? 42

- Uneven heating that creates small areas of local air circulation and thereby creates bumpy turbulent air. (x)
- Smooth cool air that creates broad areas of air circulation thereby creates nearby turbulent air.

Which of the following source of information should you consult first when determining what maintenance should be performed on a small UAS or its components? 43

- Manufacturer guidance (x)
- Pilots who have experience with the same aircraft
- Social media and Facebook Group members

This answer is probably best for all Part 107 aircraft. However, drone manufacturers and even other aircraft manufacturers may not provide adequate information. In such scenarios where maintenance information seems lacking, you may have a need to seek additional sources (maybe you are the member of a flight club, pilot organization, member of a Facebook group that focuses on the particular aircraft you own). Some YouTube videos may even help with maintenance and repair instructions.

How often is the Remote PIC required to inspect the small UAS to ensure that it is in a condition for safe operation? 44

- After each flight to a checkup routine
- Before each flight, inspect, run through a checklist (x)
- Whenever it seems like something needs attention

Did the manufacturer provide a checklist? If you start to develop your own checklist, keep adding items to the list as you gain experience flying your aircraft. A stater checklist might be found with the aircraft, from an online source (web page or YouTube video), or developed from reading the user manual and then updating as you deem necessary to only fly under optimal status.

When loading cameras or other equipment on a small UAS, mount the items in a manner that: 45

- Does not adversely affect the center of gravity. (x)
- Is mounted only on the lower side of the aircraft
- Is required to add aerodynamic lift to the aircraft

The idea of mounting something on the lower side might interfere with take off and landing. Adding a camera that is not aerodynamic in shape may have no adverse effect on a model aircraft and thus is not a critical issue. A center of gravity for any aircraft and even a drone is important to the UAS performance and to avoid any potential flight risk.

Which of the following considerations is most relevant to a Remote PIC when evaluating unmanned aircraft performance? 46

- Battery estimated flight time
- Current weather conditions (x)
- Return to home height

Battery life and percent charge is important, but weather conditions take precedence even when batteries have long flight time and full charge. The return to home height for a drone is also important and should always be set in a way to avoid obstacles. Wind, rain, cloud ceiling, and other weather issues are all a first priority when thinking about flying at any time.

What is evening civil twilight? 47

- 30 minutes after sunset (x)
- 45 minutes after sunset
- 60 minutes after sunset

In the past you were able to only fly during the darkness of twilight before sunrise and after sunset, but flying at night (in darkness) is a recent update to flight regulations … what is key, for example, is the addition of lights to the drone that are visible as far as 3 SM (along with compliance to all other FAA regulations). [Note: presumably the same applies to other model aircraft, but be sure to check for FAA regulation updates for all kinds of aircraft and for all flight considerations]

When operating UAS during darkness (night), what must it be equipped with? 48

- Blinking lights you can spot when flying line of sight
- Light unit that is visible for at least 2 statute miles from the control station.
- Anti-collision lights that are capable of being visible for at least 3 statute miles from the control station. (x)

Which of these is not the appropriate distance limitation for an unmanned flight? 49

- Within 5 miles from the control station (x)
- 500 feet below a cloud and 2000 horizontal feet from a cloud
- 400 above ground level unless flown within a 400 foot radius of a structure and is not flown higher than 400 feet above the structure's uppermost limit

What is the "see and avoid" rule? 50

- Always steer the UAS to the right of oncoming air traffic.
- The remote PIC has a responsibility to remain clear of and yield right-of-way to all other aircraft, manned or unmanned, and avoid other potential hazards that may affect the Remote PIC's operation of the aircraft. (x)
- Avoid flying as soon as you see any other type of aircraft flying nearby.

What is a NOTAM? 51

- A regulation found and specified under Part 107
- NOTAM is Notice to Airmen (x)
- Guideline that applies to every area across the US

What is important about a NOTAM? 52

- Important because an airport control tower issues each as a directive
- NOTAMs are important guidance that only applies to commercial aircraft
- Important because these they contain Temporary Flight Restrictions that could be pertinent to UAS (x)

And some NOTAMs are not simply temporary. Read carefully, in some cases (in certain locations) the NOTAM may not have an end date and may be considered in effect at all times moving forward.

Why should Remote PICs request ATC authorization as soon as possible prior to any operation in Class B, C and D airspace 53

- Because FAA tracks all radio tower activity
- Because ATC has no established timeline for when they can give approval, thus, arrangements should be made as soon as possible. (x)
- Because you will be able to plan weeks in advance of a planned flight

You need to get clearance from the specific airport (in that Class area) and within a reasonable amount of time just before you wish to fly. For example, calling/contacting in the morning to fly a few hours later is most relevant because the ATC will know traffic activity for that anticipated time (duration of your request), day, and altitude you are requesting for your flight.

You may not operate a small unmanned aircraft directly over another person(s) when: 54

- Directly involved in the operation (such as a visual observer or other crew member)
- Within a safe cover, such as inside a stationary vehicle or a protective structure that would protect a person from harm if the small unmanned aircraft were to crash into that structure
- In a random group of persons moving and walking in the open space below (x)

How far in advance of use must an application for a certificate of waiver be used? 55

- 30 days
- 45 days
- 90 days (x)

Note: First, “used” would be better put as “application submitted.” Second: 90 days seems way in advance and there are some indications that more recent approvals have allowed for less advance time needed. This is worth checking with the source to see what may be possible for the location you are interested in. Third: this question may be old and if referring to flight waiver the newest way for clearance is using **LAANC**.

A professional wildlife photographer operates a small UAS from a moving truck to capture aerial images of migrating birds in remote wetlands. The driver of the truck does not serve any crew member role in the operation. 56

- Compliant with part 107 (x)
- Not compliant with part 107

Yes because this is in a sparsely populated region

Power company employees use a small UAS to inspect a long stretch of high voltage power lines. Due to muddy conditions, their vehicle must stay beside the road and the crew uses binoculars to maintain visual line of sight with the aircraft. 57

- Compliant with part 107
- Not compliant with part 107 (x)

No, becasue of excessive use of binoculars

Personnel at an outdoor concert venue use a small UAS to drop promotional t-shirts and CDs over the audience. 58

- Compliant with part 107
- Not compliant with part 107 (x)

Added Note: However, some sources seem to indicate a clearance may be obtained to drop items from a drone. This may be a basic principle without further applicable conditions noted. (Advice: Search for more information on this type of flight application).

What is not strictly associated with a lost link? 59

- Lost link is an interruption or loss of the control link between the control station and the unmanned aircraft, preventing control of the aircraft.
- The unmanned aircraft performs pre-set lost link procedures.
- Lost link always occurs when flying near another UAS (x)

What is not necessarily associated with an immediate flight termination 60

- The intentional and deliberate process of performing controlled flight to the ground.
- Battery level drops to 30% (x)
- May be part of lost link procedures or if other potential hazards exist that require immediate discontinuation of flight.

What is a flyaway? 61

- An emergency situation resulting from a lost link where no flight termination can be successfully controlled. (x)
- The leg of your flight away from the control station location until control turns the aircraft back toward the control station.
- A lost link that continues flight for a a short duration then ends up returning the aircraft to home.

How long does the Remote PIC have to report a UAS accident to the FAA? 62

- 7 days
- 10 days (x)
- 15 days

What threshold must be met in order to have an UAS accident that must be reported to the FAA? 63

- Moderate injury or Damage to property greater than $500
- Serious injury or Damage to property greater than $250
- Serious injury or Damage to property greater than $500 (x)

During your preflight inspection, you discover a small nick in the casing of your small UAS battery. What is the greatest concern: 64

- If the nick is a surface scratch on outer battery casing there is likely no immediate concern (and you could potentially test the battery of a done with a flight hovering near by and only a few feet of the ground).
- You decide to retire the use of this battery as a precaution.
- The nick in a battery potentially damages a cell that would compromise battery function causing risk and potential failure and flight interruption and crash. (x)

Comment: Another test question directs the PIC to an answer noting the manufacturer's guidance on how to handle such a battery, including making a possible test. Part 107 seems not to suggest the battery test option, but drone pilots have on occasion revealed their testing battery life by doing a simple local hover test to determine battery condition and potential flight duration. A damaged battery may have vastly reduced function and increased risk. Certainly this option is better than just risking free or lengthy flight without added testing. Again, defer to Part 107 **risk assessment** and **risk management** for making the wisest choice to avoid accidents.

You are part of a news crew, operating a small UAS to cover a breaking story. You experience a flyaway during landing. The unmanned aircraft strikes a vehicle, causing approximately $800 worth of damage. What is required under Part 107? 65

- Call in an accident report with the FAA within 24 hours
- Just pay the vehicle owner for damages
- File a accident report with the FAA within 10 days (x)

A stable air mass is most likely to have which characteristic? 66

- Great distance visibility
- Poor surface visibility (x)

What are characteristics of a moist, unstable air mass? 67

- Turbulence and showery precipitation (x)
- Moderate wind speeds and variable cloud cover
- High cloud ceiling

[Cumuliform clouds, turbulent air, good visibility, and showery precipitation are all characteristics of unstable air.]

Who holds the responsibility to ensure all crew members who are participating in the operation are not impaired by drugs or alcohol? 68

- Flight crew team leader
- Remote Pilot in Command (x)
- Visual Observer
- FAA Service Center

Fatigue can be recognized as: 69

- As being in an impaired state (x)
- Simply lacking some sleep
- A need to rehydrate before flying the UAS

The most comprehensive information on a given airport is provided by: 70

- A Sectional Chart
- The Chart Supplements U.S. (formerly Airport/Facility Directory) (x)
- Referring to the Part 107 supplement for recreational and certified UAS pilots

Sectional charts, and charts in the supplement document used during the Part 107 test, do not have the level of detail as provided by the Chart Supplements (which are available to download online and are updated periodically to assure greater accuracy based on current airport status.

How do you find out if an MOA is still active? 71

- Visit the Flight Service online portal (x)
- Call a local ATC
- Send an email to the FAA

The Flight Service Pilot Web Portal 1800wxbrief.com allows pilots to receive online preflight briefings, file flight plans and get automatic notifications and alerts, including flight plan closure reminders.

Comment onGoogle Notes: Unlike Restricted, Prohibited Areas or TFRs, **MOAs do not prohibit the operation of general aviation aircraft**. You can, if you want to, fly through a MOA even when it's “active.” Most of the time you will want to fly through them. It is often a serious pain to fly around a MOA.

Part 107 applies to: 72

- Civil and public small UAS operations
- Civil small UAS operations (x)
- Public UAS operations

A small UA causes an accident and your crew member loses consciousness. When do you report the accident? 73

- No accidents need to be reported.
- When requested by the UA owner.
- Within 10 days of the accident. (x)

What increases the load factor on a fixed wing airplane? 74

- Power off stall
- Level turn (x)
- Steady state climb

Note: When an aircraft goes into a level turn, the load factor on the wing is increased. This is because in order to not lose altitude, the pilot has to "pull back" on the controls to keep the nose up, and this increases the stress on the airplane.

Registration requirements for small unmanned aircraft systems. Under what condition would a small UA not have to be registered before it is operated in the United States? 75

- When the aircraft weighs less than .55 pounds on takeoff, including everything that is on-board or attached to the aircraft. (x)
- When the aircraft has a takeoff weight that is more than .55 pounds, but less than 55 pounds, not including fuel and necessary attachments.
- All small UAS need to be registered regardless of the weight of the aircraft before, during, or after the flight.

Registration requirements for small unmanned aircraft systems. According to 14 CFR part 48, when must a person register a small UA with the Federal Aviation Administration? 76

- The owner is at least 13 years of age. (x)
- All persons must register their small UA.
- If the owner does not have a valid United States driver's license.

[48.25 says, "(b) A small unmanned aircraft must be registered by its owner using the legal name of its owner, unless the owner is less than 13 years of age. If the owner is less than 13 years of age, then the small unmanned aircraft must be registered by a person who is at least 13 years of age." Keep in mind that they are trying to make you know Part 48. There are other answers as to why a person could not register via Part 47 such as being a foreign citizen.]

A small UA must be operated in a manner which ... 77

- does not endanger the life or property of another. (x)
- requires more than one visual observer.
- never exceeds 200 feet AGL

After having dinner and wine, your client asks you to go outside to demonstrate the small UAs capabilities. You must: 78

- pass a self-administered sobriety test before operating a small UA.
- not operate a small UA within 8 hours of consuming any alcoholic beverage. (x)
- ensure that your visual observer has not consumed any alcoholic beverage in the previous 12 hours.

Daylight operation. According to 14 CFR part 107, what is required to operate a small UA within 30 minutes after official sunset? 79

- Use of anti-collision lights. (x)
- Must be operated in a rural area.
- Use of a transponder.

Again, there is new very quick regulation in place to fly at night pretty easily. You still have to follow all the basic rules applicable to a drone pilot.

FYI: link to 107 pilot airspace authorization:

https://www.faa.gov/uas/commercial_operators/part_107_airspace_authorizations

During a flight of your small UA, you observe a hot air balloon entering the area. You should 80

- yield the right-of-way to the hot air balloon. (x)
- ensure the UA passes below, above, or ahead of the balloon.
- expect the hot air balloon to climb above you altitude.

[107.37 says, "(a) Each small unmanned aircraft must yield the right of way to all aircraft, airborne vehicles, and launch and reentry vehicles. Yielding the right of way means that the small unmanned aircraft must give way to the aircraft or vehicle and may not pass over, under, or ahead of it unless well clear."]

Prior authorization required for operation in certain airspace. According to 14 CFR part 107, how may a remote pilot operate an unmanned aircraft in class C airspace? 81

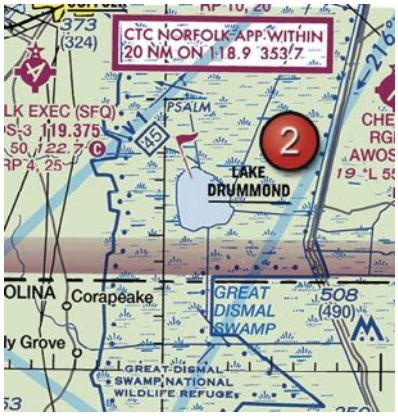
- The remote pilot must have prior authorization from the Air Traffic Control (ATC) facility having jurisdiction over that airspace. (x)
- The remote pilot must monitor the Air Traffic Control (ATC) frequency from launch to recovery.
- The remote pilot must contact the Air Traffic Control (ATC) facility after launching the unmanned aircraft.

[§107.41 says, "No person may operate a small unmanned aircraft in Class B, Class C, or Class D airspace or within the lateral boundaries of the surface area of Class E airspace designated for an airport unless that person has prior authorization from Air Traffic Control (ATC)."]

Refer to FAA-CT-8080-2H, Figure 78.) You have been hired to use your small UAS to inspect the railroad tracks from Blencoe (SE of Sioux City) to Onawa. Will ATC authorization be required?

- Yes, Onawa is in Class D airspace that is designated for an airport.
- No, your entire flight is in Class G airspace. (x)
- Yes, you must contact the Onawa control tower to operate within 5 miles of the airport.

Why would the small flag at Lake Drummond of the sectional chart be important to a remote pilot? 83



- This is a VFR check point for manned aircraft, and a higher volume of air traffic should be expected there. (x)
- This is a GPS check point that can be used by both manned and remote pilots for orientation.
- This indicates that there will be a large obstruction depicted on the next printing of the chart.

[Lots of aircraft means greater chance for mid-air collision.]

Preflight familiarization, inspection, and actions for aircraft operations. According to 14 CFR part 107, who is responsible for determining the performance of a small unmanned aircraft? 84

- Remote pilot-in-command (x)
- Manufacturer.
- Owner or operator.

[See 107.19. Learn the short version of this regulation. “If anything goes wrong, it is most likely the PIC’s fault.” You shouldn’t let anyone force you into flying anywhere or doing anything you feel is unsafe.]

Upon request by the FAA, the remote pilot-in-command must provide 85

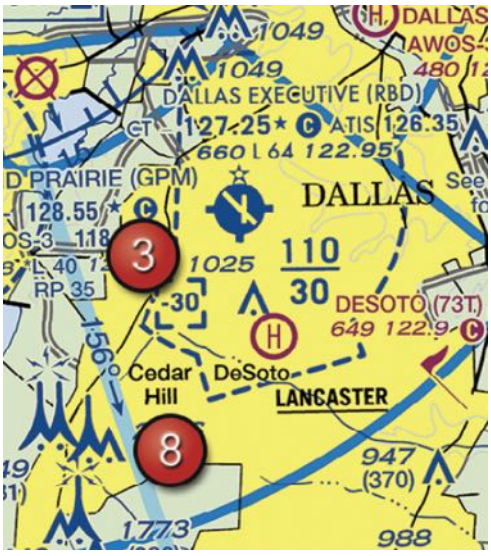
- a logbook documenting small UA landing currency.
- a remote pilot certificate with a small UAS rating. (x)
- any employer issued photo identification.

[107.7 Inspection, testing, and demonstration of compliance. (a) A remote pilot in command, owner, or person manipulating the flight controls of a small unmanned aircraft system must, upon request, make available to the Administrator: (1) The remote pilot certificate with a small UAS rating[.]"]

The refusal of a remote PIC to submit to a blood alcohol test when requested by a law enforcement officer ... 86

- is grounds for suspension of revocation of their remote pilot certificate. (x)
- can be delayed for a period up to 8 hours after the request.
- has no consequences to the remote pilot certificate.

(Refer to FAA-CT-8080-2H, Figure 25, Area 3.) The floor of Class B airspace at Dallas Executive (RBD) is: 87



- at the surface.
- 3,000 feet MSL. (x)
- 3,100 feet MSL

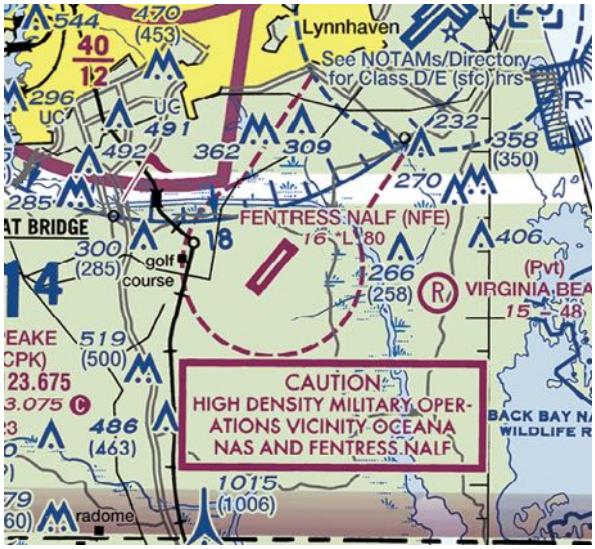
[Class B airports are huge up side down wedding cakes. The B overhangs the Class D airspace. If you see the Class D top says [-30]. The minus means up to but NOT including 3,000. Right near it you see the 110/30 which means Class B is 3,000-11,000 ft.]

General airspace: Class C controlled airspace. According to 14 CFR part 107 the remote pilot in command (PIC) of a small unmanned aircraft planning to operate within Class C airspace ... 88

- must use a visual observer.
- is required to file a flight plan.
- is required to receive ATC authorization. (x)

[Yeah! Why? Because the FAA ATC wants to make sure you can fly in certain locations.]

(Refer to FAA-CT-8080-2H, Figure 20, Area 1.) The Fentress NALF Airport (NFE) is in what type of airspace? 89



- Class C.
- Class E. (x)
- Class G

[You can tell this based upon the dashed magenta line which indicated E at the surface.]

Class B = Solid Blue Line

C = Solid Red Line

D = dashed blue

E = dashed red

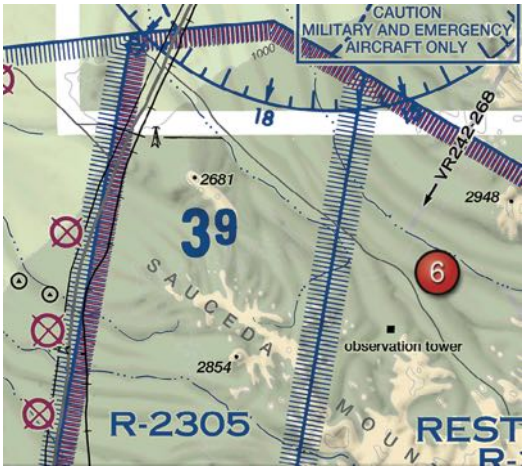
E = red line with haze inside floor at 700 feet; blue line with haze inside floor at 1200 feet

Special use within airspace. (Prohibited, restricted, warning, military operations, alert, and controlled 90 firing.) (Refer to FAA-CT-8080-2H, Figure 59, area 2.) The chart shows a gray line with "VR1667, VR1617, VR1638, and VR1668." Could this area present a hazard to the operations of a small UA?

- No, all operations will be above 400 feet.
- Yes, this is a Military Training Route from 1,500 feet AGL. (x)
- Yes, the defined route provides traffic separation to manned aircraft.

[AIM says: “(a) MTRs with no segment above 1,500 feet AGL must be identified by four number characters; e.g., IR1206, VR1207. (b) MTRs that include one or more segments above 1,500 feet AGL must be identified by three number characters; e.g., IR206, VR207.”]

(Refer to FAA-CT-8080-2H, Figure 75, Area 6.) During preflight planning, you plan to operate in R-2305. Where would you find additional information regarding this airspace?



- In the Aeronautical Information Manual.
- In the Charts Supplements U.S.
- In the Special Use Airspace area of the chart.
- ATC nearest to area of interest (x)

— What is illustrated on the sectional chart:
'Restricted Airspace is depicted on aeronautical charts, to include: VFR sectionals and IFR en-route low altitude charts'

https://www.cfinotebook.net/notebook/national-airspace-system/special-use-airspace

— The following information is found at:

ENR 5. NAVIGATION WARNINGS — ENR 5.1 Prohibited, Restricted, and Other Areas

https://www.faa.gov/air_traffic/publications/atpubs/aip_html/part2_enr_section_5.1.html

If the restricted area is **not active** and has been released to the controlling agency (FAA), the **ATC** facility will allow the aircraft to operate in the restricted airspace without issuing specific clearance for it to do so.

If the restricted area is **active** and has not been released to the controlling agency (FAA), the ATC facility will issue a clearance which will ensure the aircraft avoids the restricted airspace unless it is on an approved altitude reservation mission or has obtained its own permission to operate in the airspace and so informs the controlling facility.

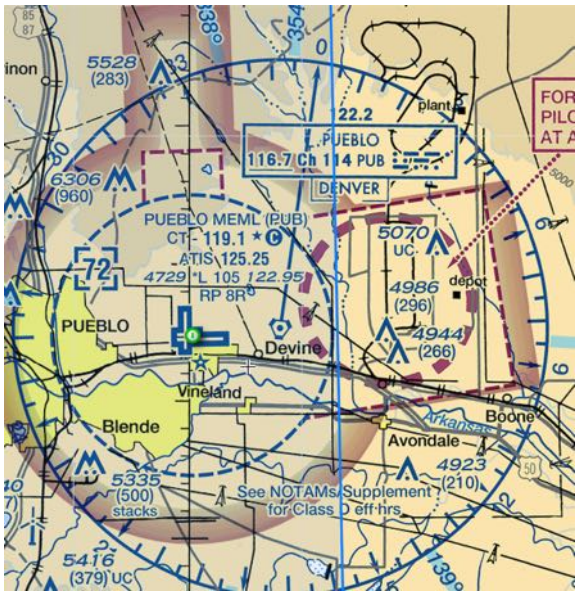
———

An online example test question notes use of Chart Supplements U.S. to find out info for a restricted area, but an online search finds no such possibility. However, if you want to look up a chart supplement for an airport or by state, go to the online search page:

https://www.faa.gov/air_traffic/flight_info/aeronav/digital_products/dafd/search/

The search needs a specific airport or state designation.

What is the dashed magenta line in a circle east of the Pueblo Airport represent?



- Class E at the surface airspace.
- This is an isogonic line.
- This is a national security area (x)

[This is NOT Class E at the surface. The dashed circle is a national security area. The thinner dashed line in the shape of a box is Class E at the surface extension.]

(Refer to FAA-CT-8080-2H, Figure 23, Area 4.) What is the required flight visibility for a remote pilot 93 operating an unmanned aircraft near the Plantation Airport (JYL)?

- 5 statute miles.
- 1 statute mile.
- 3 statute miles. (x)

[Note: Perhaps this is trying to confuse the manned aircraft guys because visibility for Class G operations for manned aircraft is 1 mile of visibility and 3 for E airspace (starts at 700ft AGL around Plantation). **Part 107 has visibility at 3 SM of visibility.]**

Why would the small flag at Lake Drummond of the sectional chart be important to a remote pilot? 94

- This is a VFR check point for manned aircraft, and a higher volume of air traffic should be expected there. (x)
- This is a GPS check point that can be used by both manned and remote pilots for orientation.
- This indicates that there will be a large obstruction depicted on the next printing of the chart.

NOTAM system including how to obtain an established NOTAM through Flight Service. (Refer to FAA-CT-8080-2H, Figure 20, area 5.) How would a remote PIC “CHECK NOTAMS” as noted in the CAUTION box regarding the unmarked balloon? 95

- By utilizing the B4UFLY mobile application.
- By contacting the FAA district office.
- By obtaining a briefing via an online source such as: 1800WXBrief.com. (x)

[You could do this. I suggest reading my article on 5 Ways to Prove You Did a Pre-Flight Briefing.]

Aviation routine weather reports (METAR) 96

[METAR KMDW 121856Z 32005KT 1 1/2SM RA OVC007 17/16 A2980 RMK RAB35]

What are the current conditions for Chicago Midway Airport (KMDW)?

- Sky 700 feet overcast, visibility 1-1/2SM, rain. (x)
- Sky 7000 feet overcast, visibility 1-1/2SM, heavy rain.
- Sky 700 feet overcast, visibility 11, occasionally 2SM, with rain.

[Time, wind direction and speed, visibility in SM, clouds, Temperature/ dew point, altimeter in inches of mercury. It is almost always the same format. Just go through and find the two wrong answers.]

[SPECI KJFK 121853Z **18004KT** 1/2SM FG R04/2200 OVC005 20/18 A3006] 97

Aviation routine weather reports (METAR). (Refer to FAA-CT-8080-2H, Figure 12.) The wind direction and velocity at KJFK is from...

- 180° true at 4 knots. (x)
- 180° magnetic at 4 knots.
- 040° true at 18 knots.

[NOTE: This is how you remember if something is true or magnetic. "If it is in print, it must be true." The only exceptions are for runways, VOR compass rose, and AWOS/ASOS headings when you call from a phone.]

UA.III.B.K1a Weather theory: Density altitude. What effect does high density altitude have on the efficiency of a UA propeller? 98

- Propeller efficiency is increased.
- Propeller efficiency is decreased. (x)
- Density altitude does not affect propeller efficiency.

[A high density altitude decreases the power output of a normal aspirated engine because there are less air molecules in the combustion. Most drones are electric so I'm taking this out of the equation. There are fewer air molecules flying over the wing (the propeller) which results in a decrease in lift.]

Weather theory: Atmospheric stability, pressure, and temperature. What are the characteristics of stable air? 99

- Good visibility and steady precipitation.
- Poor visibility and steady precipitation. (x)
- Poor visibility and intermittent precipitation.

[Yes! stratiform clouds, smooth air, poor visibility in haze and smoke, and continuous precipitation.]

Weather theory: Air masses and fronts. What are characteristics of a moist, unstable air mass? 100

- Haze and fog.
- Turbulence and showery precipitation. (x)
- Poor visibility and smooth air.

[Cumuliform clouds, turbulent air, good visibility, and showery precipitation are all characteristics of unstable air.]

Weather theory: Fog. You have received an outlook briefing from flight service through 1800wxbrief.com. The briefing indicates you can expect a low-level temperature inversion with high relative humidity. What weather conditions would you expect?

- Smooth air, poor visibility, fog, haze, or low clouds. (x)
- Light wind shear, poor visibility, haze, and light rain.
- Turbulent air, poor visibility, fog, low stratus type clouds, and showery precipitation.

[A temperature inversion means some warm air on top of some cold air. The cold air underneath on the ground, along with a high relative humidity, means you are expecting fog in the cooler area. The air will be smooth because there is little convection.]

To ensure that the unmanned aircraft center of gravity (CG) limits are not exceeded, follow the aircraft loading instructions specified in the 102

- Pilot's Operating Handbook or UAS Flight Manual. (x)
- Aeronautical Information Manual (AIM).
- Aircraft Weight and Balance Handbook.

A stall occurs when the smooth airflow over the unmanned airplane's wing is disrupted, and the lift degenerates rapidly. This is caused when the wing 103

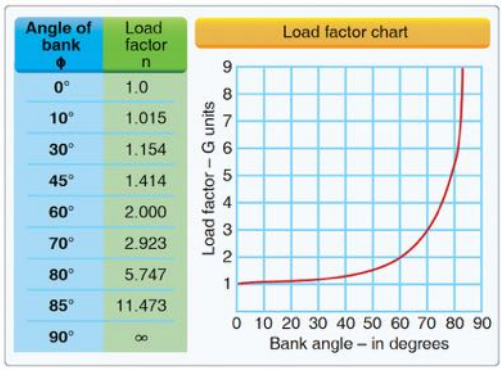
- exceeds the maximum speed.
- exceeds maximum allowable operating weight.
- exceeds its critical angle of attack. (x)

When operating an unmanned airplane, the remote pilot should consider that the load factor on the wings may be increased anytime 104

- the CG is shifted rearward to the aft CG limit.
- the airplane is subjected to maneuvers other than straight and level flight. (x)
- the gross weight is reduced.

105

If an unmanned airplane weighs 33 pounds, what approximate weight would the airplane structure be required to support during a 30° banked turn while maintaining altitude?



Angle of bank Φ	Load factor n
0°	1.0
10°	1.015
30°	1.154
45°	1.414
60°	2.000
70°	2.923
80°	5.747
85°	11.473
90°	∞

Figure 2. Load Factor Chart.

- 34 pounds.
- 47 pounds.
- 38 pounds. (x)

[Explanation: In a turn of 30 degrees of bank and while maintaining level flight (no altitude loss because you slightly pitched up), you will have a 1.154 load factor. This means that in this turn you will be feeling like you are pulling 1.154 G's. 33 pounds x 1.154 = 38.082 pounds].

(Refer to FAA-CT-8080-2H, Figure 21, Area 1.) After receiving authorization from ATC to operate a small UA near Minot International airport (MOT) while the control tower is operational, which radio communication frequency could be used to monitor manned aircraft and ATC communications? 106

- UNICOM 122.95
- ASOS 118.725.
- CT-118.2. (x)

[This is the control frequency and also is the CTAF frequency.]

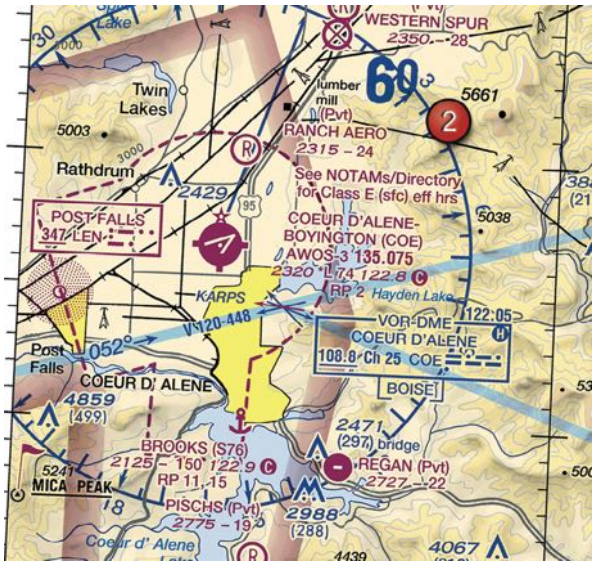
107

(Refer to FAA-CT-8080-2H, Figure 21.) What airport is located approximately 47 (degrees) 40 (minutes) N latitude and 101 (degrees) 26 (minutes) W longitude?

- Mercer County Regional Airport.
- Semshenko Airport.
- Garrison Airport. (x)

Let's make this simple. Ladder sounds kind of like latitude. You climb the ladder going north. (Keep in mind it is north only if you are in the Northern Hemisphere) For minutes, just think of them as tick marks. There is a box with 30 tick marks in it, a line, and then another 30 tick marks. Total you get 60 minutes. For longitude, also called meridians, think of the Prime Meridians running through Greenwich, England.

At Coeur D`Alene which frequency should be used as a Common Traffic Advisory Frequency (CTAF) to monitor airport traffic? 108



- 122.05 MHz.
- 135.075 MHz.
- 122.8 MHz. (x)

A small UA is being launched 2 NM northeast of the town of Hertford. What is the height of the highest obstacle? 109

- 399 feet MSL.
- 500 feet MSL.
- 500 feet AGL. (x)

[The aeronautical chart user's guide on page 12 says: "Whenever possible, the FAA depicts specific obstacles on charts. However, in high-density areas like city complexes, only the highest obstacle is represented on the chart using the group obstacle symbol to maximize legibility."]

110

(Refer to FAA-CT-8080-2H, Figure 26, area 4.) You have been hired to inspect the tower under construction at 46.9N and 98.6W, near Jamestown Regional (JMS). What must you receive prior to flying your unmanned aircraft in this area?

- Authorization from the military.
- Authorization from ATC. (x)
- Authorization from the National Park Service.

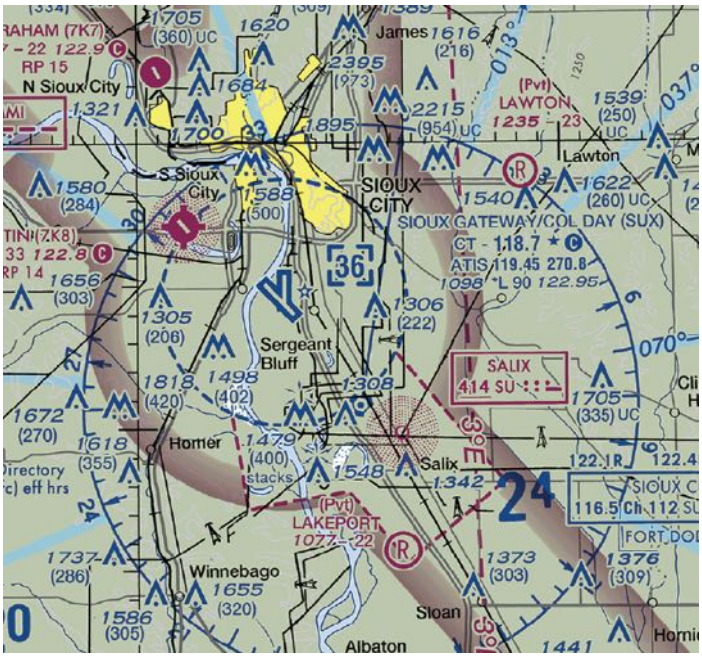
[This is Class E airspace going to the surface ASSOCIATED with an airport. The magenta dashes indicate this. According to Part 107, you'll need authorization to operate within Class E at the surface airspace.]

For information about the parachute operations at Tri-County Airport, refer to 111

- notes on the border of the chart.
- Chart Supplements U.S. (x)
- the Notices to Airmen (NOTAM) publication.

[The parachute sign is next to the airport. Legend 1 clues you in to look at the chart supplement even.]

(Refer to FAA-CT-8080-2H, Figure 78. Near the center of the figure.) What class of airspace is associated with SIOUX GATEWAY/COL DAY (SUX) Airport? 112



- Class B airspace.
- Class C airspace.
- Class D airspace. (x)

[This is evidenced by the blue dashes. Technically, it also have some E at the surface airspace extensions which are marked by the dashed magenta lines.]

B = Solid Blue Line

C = Solid Red Line

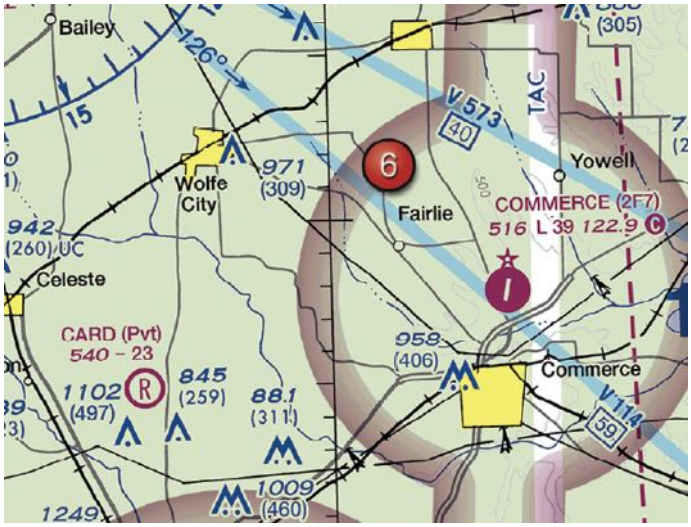
D = dashed blue

E = dashed red

E = red line with haze inside floor at 700 feet; blue line with haze inside floor at 1200 feet

113

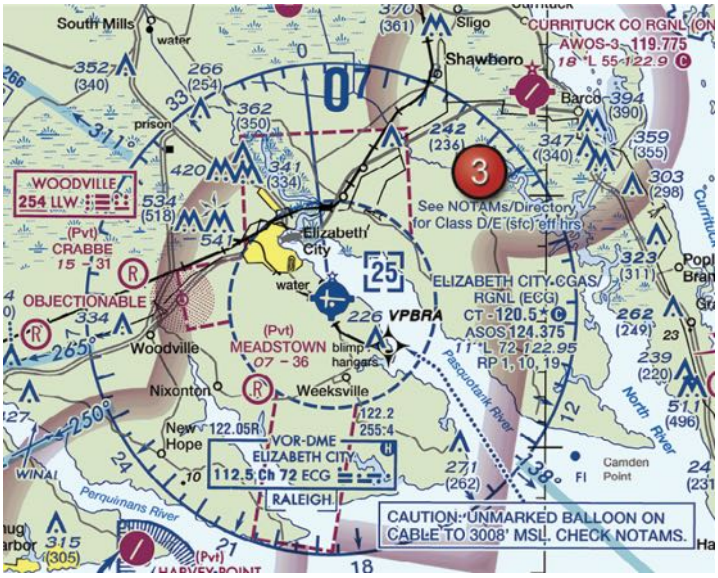
(Refer to FAA-CT-8080-2H, Figure 24, Area 6.) What type of airport is Card Airport?



- Public towered.
- Public non-towered.
- Private non-towered. (x)

[It is private because it has a big R on it. You can tell it is not towered because it is magenta and not blue.]

Sources for airport data: Aeronautical charts. (Refer to FAA-CT-8080-2H, Figure 20, area 3.) With ATC authorization, you are operating your small unmanned aircraft approximately 4 SM southeast of Elizabeth City Regional Airport (ECG). What hazard is indicated to be in that area? 114



- High density military operations in the vicinity.
- Unmarked balloon on a cable up to 3,008 feet AGL.
- Unmarked balloon on a cable up to 3,008 feet MSL. (x)

[Pilots flying don't have a good way of determining AGL so they use MSL. Keep in mind that if you are flying 4SM from the airport, you are within 4 nautical miles from the airport. Class D airports generally have a radius of 4NM. You would need an airspace waiver to operate in this area.]

(Refer to FAA-CT-8080-2H, Figure 26.) What does the line of latitude at area 4 measure? 115

- The degrees of latitude east and west of the Prime Meridian.
- The degrees of latitude north and south from the equator. (x)
- The degrees of latitude east and west of the line that passes through Greenwich, England.

[Like you are climbing a ladder going up or down. Just remember which hemisphere you are in. 99% of you people aren’t going below the equator so it will be north most of the time.]

The most comprehensive information on a given airport is provided by 116

- the Chart Supplements U.S. (formerly Airport Facility Directory). (x)
- Notices to Airmen (NOTAMS).
- Terminal Area Chart (TAC).

[This will tell you all sorts of things. Ever wonder how you get the phone number of the airport manager to make phone calls if you are flying recreationally within 5nm of an airport? This is how!]

When using a small UA in a commercial operation, who is responsible for briefing the participants about emergency procedures?

- The FAA inspector-in-charge.
- The lead visual observer.
- The remote PIC. (x)

To avoid a possible collision with a manned airplane, you estimate that your small UA climbed to an altitude greater than 600 feet AGL. To whom must you report the deviation? 118

- Air Traffic Control.
- The National Transportation Safety Board.
- Upon request of the Federal Aviation Administration. (x)

What precautions should a remote PIC do to prevent possible inflight emergencies when using lithium-based batteries? 119

- Store the batteries in a freezer to allow proper recharging.
- Follow the manufacturers recommendations for safe battery handling. (x)
- Allow the battery to charge until it reaches a minimum temperature of 100 °

[Depending on the manufacturer or the battery supply company, you may or may not get all the helpful information needed. Battery life diminishes with use, storage is best in pouches or bags designed to minimize or prevent fire hazard, etc. Search the web to find out more about lithium batteries!]

Safety is an important element for a remote pilot to consider prior to operating an unmanned aircraft system. To prevent the final "link" in the accident chain, a remote pilot must consider which methodology? 120

- Crew Resource Management.
- Safety Management System.
- Risk Management. (x)

[This is the part of the decision making process which relies on situational awareness, problem recognition, and good judgment to reduce risks associated with each flight.]

A local TV station has hired a remote pilot to operate their small UA to cover breaking news stories. The remote pilot has had multiple near misses with obstacles on the ground and two small UAS accidents. What would be a solution for the news station to improve their operating safety culture? 121

- The news station should implement a policy of no more than five crashes/incidents within 6 months.
- The news station does not need to make any changes; there are times that an accident is unavoidable.
- The news station should recognize hazardous attitudes and situations and develop standard operating procedures that emphasize safety (x)

When adapting crew resource management (CRM) concepts to the operation of a small UA, CRM must be integrated into 122

- the flight portion only.
- all phases of the operation. (x)
- the communications only.

When a remote pilot-in-command and a visual observer define their roles and responsibilities prior to and during the operation of a small UA is a good use of: 123

- Crew Resource Management. (x)
- Authoritarian Resource Management.
- Single Pilot Resource Management

CRM is really the effective use of all available resources: human, hardware, and information. This is highlighting the human portion.

You have been hired as a remote pilot by a local TV news station to film breaking news with a small UA. You expressed a safety concern and the station manager has instructed you to "fly first, ask questions later." What type of hazardous attitude does this attitude represent? 124

- Machismo.
- Invulnerability.
- Impulsivity. (x)

Which is true regarding the presence of alcohol within the human body? 125

- A small amount of alcohol increases vision acuity.
- Consuming an equal amount of water will increase the destruction of alcohol and alleviate a hangover.
- Judgment and decision-making abilities can be adversely affected by even small amounts of alcohol. (x)

Identify the hazardous attitude or characteristic a remote pilot displays while taking risks in order to impress others? 126

- Impulsivity.
- Invulnerability.
- Macho. (x)

You are a remote pilot for a co-op energy service provider. You are to use your UA to inspect power lines in a remote area 15 hours away from your home office. After the drive, fatigue impacts your abilities to complete your assignment on time. Fatigue can be recognized. 127

- easily by an experienced pilot.
- as being in an impaired state. (x)
- by an ability to overcome sleep deprivation.

Which technique should a remote pilot use to scan for traffic? A remote pilot should 128

- systematically focus on different segments of the sky for short intervals. (x)
- concentrate on relative movement detected in the peripheral vision area.
- continuously scan the sky from right to left.

Under what condition should the operator of a small UA establish scheduled maintenance protocol? 129

- When the manufacturer does not provide a maintenance schedule. (x)
- UAS does not need a required maintenance schedule.
- When the FAA requires you to, following an accident.

[Yes, because you should know what the mean time between failures is or have an idea on what are the typical problems certain drones encounter so you can PREVENT crashes.]

What actions should the operator of an sUAS do if the manufacturer does not provide information about scheduled maintenance? 130

- The operator should contact the FAA for a minimum equipment list.
- The operator should establish a scheduled maintenance protocol. (x)
- The operator should contact the NTSB for component failure rates for their specific sUAS.

According to 14 CFR part 107, the responsibility to inspect the small UAS to ensure it is in a safe operating condition rests with the 131

- remote pilot-in-command. (x)
- visual observer.
- owner of the small UAS.

[107.19 says, "(b) The remote pilot in command is directly responsible for and is the final authority as to the operation of the small unmanned aircraft system.]

Under what condition should the operator of a small UA establish scheduled maintenance protocol? 132

- When the manufacturer does not provide a maintenance schedule. (x)
- UAS does not need a required maintenance schedule.
- When the FAA requires you to, following an accident.

[Yes, because you should know what the mean time between failures is or have an idea on what are the typical problems certain drones encounter so you can PREVENT crashes.]

Class A airspace 133

- 4,000ft and above
- 10,000ft and above
- 18,000ft and above (x)

Class B Airspace 134

- SFC - 4,000 ft MSL
- SFC - 10,000 ft MSL (x)
- SFC - 18,000 ft MSL

Surrounding nation's busiest airports; upside-down wedding cake; ATC clearance required … numbers to remember:

Class B - 10,000

Class C - 4,000

Class D - 2,500

Class C Airspace 135

- SFC - 4,000 ft MSL (x)
- SFC - 10,000 ft MSL
- SFC - 15,000 ft MSL

Note:

5 NM radius
A remote pilot must receive authorization

Class D Airspace 136

- SFC-2,500ft MSL (x)
- SFC-5,000ft MSL
- SFC-7,500ft MSL

4 NM radius

Class E Airspace 137

- Class E airspace is the controlled airspace not classified as Class A, B, C, or D airspace. (x)
- Class E airspace is the uncontrolled airspace.
- Class E airspace is the controlled airspace and is classified as Class A, B, C, or D airspace.

In most cases a remote pilot will not need authorization

Class G airspace 138

- Uncontrolled airspace requires authorization
- Controlled airspace requires authorization
- Uncontrolled airspace not requiring authorization (x)

What is MTR? 139

- Mandatory Training Requirement (for Part 107)
- Military Training Route (x)
- Meteorological Test Routine

Identified by four number characters (e.g., IR1206, VR1207).

What is a report established for the five statute miles around the airports? 140

- Terminal Aerodrome Forecasts (TAF) (x)
- NOAA weather advisory
- Weather Channel Special report

TAF are usually given for larger airports and valid for a 24-30 hour time period with four updates a day (0000Z, 0600Z, 1200Z, and 1800Z) TAF uses the same descriptors and abbreviation as used in METAR

What is microburst? 141

- As air rises and expands, the temperature decreases
- the most severe type of low-level wind shear (x)
- When temperature reduces to the dew point

What is inversion? 142

- As air rises and expands, the temperature decreases (x)
- the most severe type of low-level wind shear
- When temperature reduces to the dew point

Standing Lenticular Altocumulus Clouds 143

- Cumulus clouds with turbulent updrafts
- These clouds show little movement (x)
- Kidney Bean shaped clouds

Clouds identified as standing (little movement). They are characterized by their smooth, polished edges. Its presence indicates very strong turbulence.

What are the characteristics of unstable air? 144

- the most dangerous type of clouds for pilots, usually indicate severe thunderstorms
- Cumuliform, showery precipitation, rough air (turbulence), good visibility usually tends to be hot & humid air (x)
- Stratiform clouds and fog, steady precipitation, smooth air, fair to What are the characteristics of stable air? in haze and smoke

What are the characteristics of cumulonimbus clouds? 145

- the most dangerous type of clouds for pilots, usually indicate severe thunderstorms (x)
- Cumuliform, showery precipitation, rough air (turbulence), good visibility usually tends to be hot & humid air
- Stratiform clouds and fog, steady precipitation, smooth air, fair to poor visibility in haze and smoke

What are the characteristics of stable air? 146

- the most dangerous type of clouds for pilots, usually indicate severe thunderstorms
- Cumuliform, showery precipitation, rough air (turbulence), good visibility usually tends to be hot & humid air
- Stratiform clouds and fog, steady precipitation, smooth air, fair to poor visibility in haze and smoke (x)

How many feet below clouds can you legally fly a drone? 147

- must be 400 ft below clouds
- must be 500 ft below clouds (x)
- must be 600 ft below clouds

How many feet horizontally must you be from clouds? 148

- 1,500 ft
- 2,000 ft (x)
- 3,000 ft

What is the maximum legal speed for a drone? 149

- 87 mph
- 100 mph (x)
- 78 kt

What is the minimum SM visibility permitted to fly a drone? 150

- 3 SM (x)
- 3 NM
- 2 SM

How many hours after drinking alcohol do you have to wait before flying your drone? 151

- 4 hours
- 8 hours (x)
- 24 hours

This may not be the only factor. The blood alcohol level has to have dropped below 0.04 blood alcohol level plus the 8 hours

What is the legal blood alcohol level (BAL) you must have before you can fly? 152

- 0.02 BAL
- 0.04 BAL (x)
- 0.1 BAL

Which MSL and AGL listing is correct on a sectional chart? 153

- 2049 MSL and (1149) MSL
- 2049 MSL and (1149) AGL (x)
- 2049 AGL and (1149) AGL

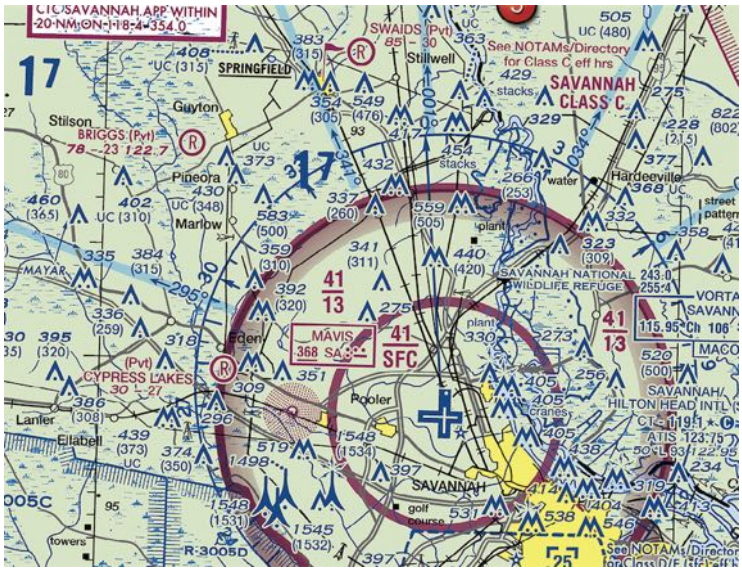
Nimbus clouds are … 154

- High wispy clouds
- Small scattered clouds
- Big heavy clouds (x)

Stratus clouds are ... 155

- High wispy clouds (x)
- Small scattered clouds
- Big heavy clouds

(Refer to FAA-CT-8080-2H, Figure 23, area 3) A client has hired you to inspect a tower on Tuesday. The tower to be inspected is the lighted tower 6 NM SW of Savannah/Hilton Head Intl (SAV). At the highest allowable flight altitude above the tower, what airspace would you be in? 156



- Class G
- Class E
- Class C (x)

B = Solid Blue Line

C = Solid Red Line

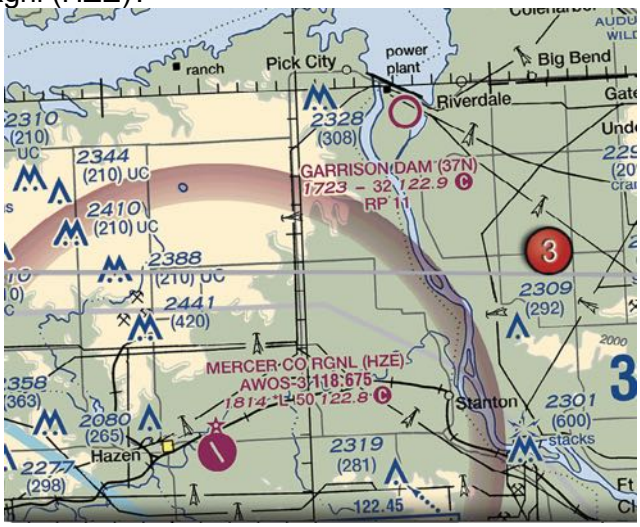
D = dashed blue

E = dashed red

E = red line with haze inside floor at 700 feet; blue line with haze inside floor at 1200 feet

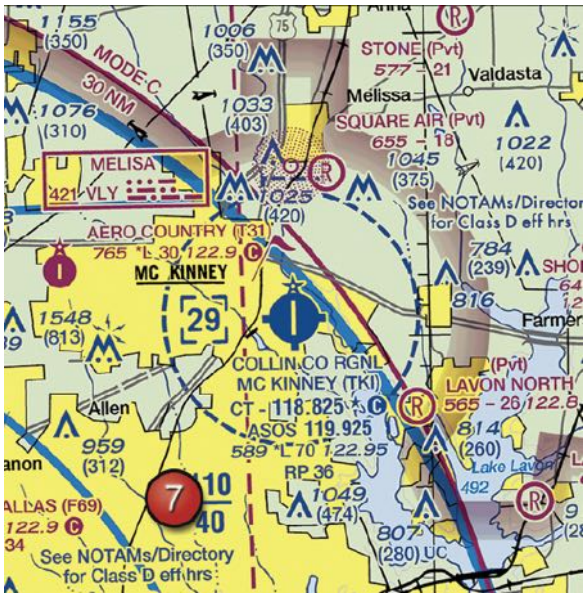
157

(Refer to FAA-CT-8080-2H, Figure 21, area 3) What is the floor of the Class E airspace surrounding Mercer Co Rgnl (HZE)?



- 750′ AGL
- 700′ MSL
- 2,514′ MSL (x)

(Refer to FAA-CT-8080-2H, Figure 25, area 7) What is the ceiling of controlled airspace at Collin Co Rgnl McKinney (TKI)? 158



- 2,900′ MSL (x)
- 2,900′ AGL
- 2,311′ MSL

(Refer to FAA-CT-8080-2H, Figure 74, area 3) Where would you go to obtain more information about restricted airspace R-2531? 159

- Aeronautical Information Manual (AIM)
- Notes to Sectional Charts (x)
- Chart Supplements/Airport Facilities Directory

At what altitude does wind shear occur? 160

- Below 5,000 feet AGL
- Above 20,000 feet MSL
- At any altitude (x)

To find out more information about parachute operations in the vicinity of an airport, what would you look at? 161

- Chart Supplements/Airport Facilities Directory (x)
- Pilot's Handbook of Aeronautical Knowledge
- Local county website

During a crash, the lithium battery in your UAV is dislodged from its compartment and is found on the ground 5 feet from the aircraft. You notice a dent in the battery, what should you do? 162

- Perform a test flight to ensure that all items are working properly
- Assess the condition of the battery and cautiously proceed, following manufacturer's recommendations (x)
- Discard battery regardless of condition

[While this question’s provided answer recommends following the manufacturer’s recommendations (which may be absolutely the only necessary advisable precautionary step). SUGGESTION: Take a look, a severe dent or damage probably leads to just proper battery disposal. Also, is the dent minor and not on the inner cover over the lithium? If minor internal dent or a scratch in the outer plastic cover, a risk assessment would include conducting a test flight, first by recharging the battery (did that work ok?), then test by a flight hovering close to the ground and several yards nearby the command station. Keep a watch on the total time of performance to determine if the battery is fully functional … plus to determine current length in time the battery supports any potential future flight. If the battery time is dramatically different, like way shorter and previous use, this implies taking a future risk that is not advisable.]

It is 7:00 am. Official sunrise is at 7:40 am. Your UAV does not have any anti-collision lighting. How long do you need to wait before you can fly under Part 107? 163

- 10 minutes
- 70 minutes
- 40 minutes (x)

This question is a reflection of prior FAA policy. Again, pilots with Part 107 certification can (due to a recent updated policy) arrange for night flight.

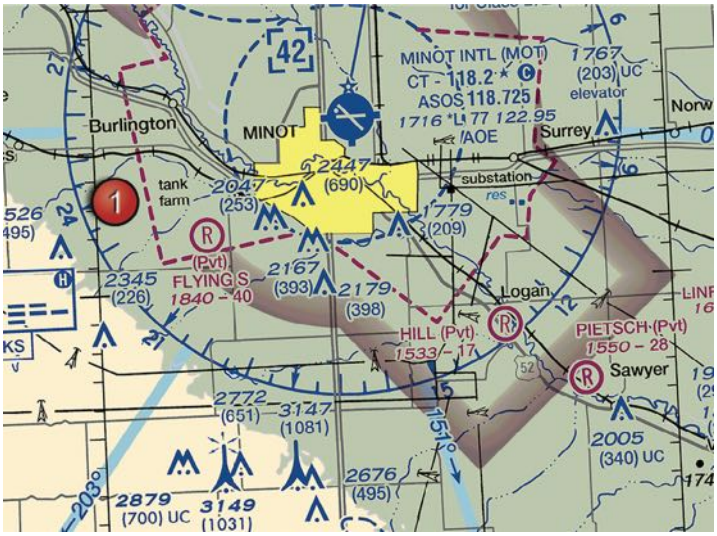
If the center of gravity on your aircraft is too far aft (rearward), what is the likely result? 164

- The aircraft will have difficulty recovering from a stalled position (x)
- The aircraft will not be able to maintain a constant turn
- The aircraft will have increased airspeed

What is the purpose of a Common Traffic Advisory Frequency (CTAF)? 165

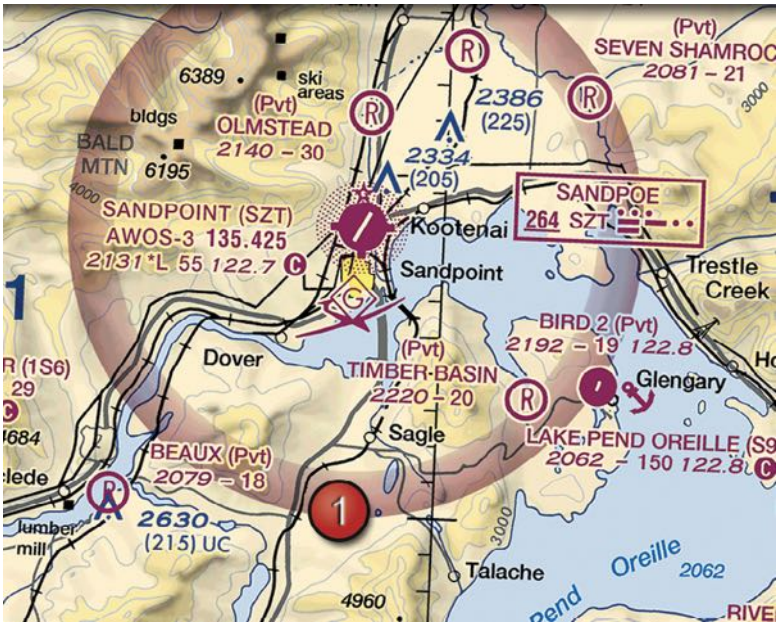
- For manned aircraft pilots to self-announce their positions in and around non-towered airports (x)
- For remote PICs to communicate with one another during flight operations
- For ATC to monitor all uncontrolled airspace

Refer to FAA-CT-8080-2H, Figure 21, area 1) How tall is the tallest tower in the group of towers approximately 15 statute miles south of Minot International Airport? 166



- 1,081′ AGL (x)
- 3,149′ MSL
- 2,772′ AGL

(Refer to FAA-CT-8080-2H, Figure 22, area 1) What is the floor of controlled airspace around Sandpoint airport? 167



- 700 feet MSL
- 2,831 feet MSL (x)
- 2,131 feet AGL

Which thunderstorm life cycle stage is mostly characterized by downdrafts? 168

- Cumulus
- Mature (very dangerous)
- Dissipating (x)

Which of the following individuals may process an application for a part 107 remote pilot certificate with an sUAS rating? 169

- ATC staff member
- Designated Pilot Examiner (x)
- FAA Center Office Staffer

After receiving a part 107 remote pilot certificate with an sUAS rating, how often must you satisfy recurrent training requirements? 170

- Every 12 months
- Every 24 months (x)
- Every 36 months

[Sources: 14 CFR part 107.63 and 107.65; AC 107, Small UAS (as amended)]

Which of the following types of operations are excluded from the requirements in part 107? 171

- Model aircraft for hobby use (x)
- Model aircraft for commercial use
- Quadcopter drone video for pay

A person without a part 107 remote pilot certificate may operate an sUAS for commercial operations: 172

- When the aircraft is registered by a certified PIC
- Under the direct supervision of a Remote PIC (x)
- There are no commercial options for an uncertified pilot

You have been hired as a Remote Pilot in Command by a local TV news station to film breaking news with a small unmanned aircraft. You expressed a safety concern and the station manager has instructed you to "fly first, ask questions later." What type of hazardous attitude does this attitude represent? 173

- Anti-Authority
- Invulnerability
- Impulsivity (x)

A stall occurs when the smooth airflow over the unmanned airplane's wing is disrupted, and the lift degenerates rapidly. This is caused when the wing: 174

- Lowers its angle of attack
- Exceeds its critical angle of attack (x)

What could be a consequence of operating a small unmanned aircraft above its maximum allowable weight? 175

- Heavier means better performance
- Shorter endurance (x)
- No issue as long as the aircraft is able to takeoff and climb

To ensure that the unmanned aircraft center of gravity (CG) limits are not exceeded, follow the aircraft loading instructions specified in the: 176

- Aeromedical Safety Brochures
- Aviation Maintenance Technician Handbook – General
- Pilot's Operating Handbook or UAS Flight Manual (x)

How would high density altitude affect the performance of a small unmanned aircraft? 177

- Decreased performance (x)
- Increased performance
- No alteration to performance

[Source: Pilot's Handbook of Aeronautical Knowledge (PHAK), Chapter 10]

In accordance with 14 CFR part 107, except when within a 400' radius of a structure, at what maximum altitude can you operate sUAS? 178

- 400 feet AGL (x)
- 400 feet MSL
- 500 feet AGL

According to 14 CFR part 107, how may a Remote Pilot in Command (Remote PIC) operate an unmanned aircraft in class C airspace? 179

- Simply fly outside the SFC to altitude restricted area
- The Remote PIC must have prior authorization from Air Traffic Control (ATC) (x)
- Class C is restricted air space

In accordance with 14 CFR part 107, you may operate an sUAS from a moving vehicle when ... 180

- Over a sparsely populated area (x)
- When there is heavy auto traffic but no convertible tops lowered and people exposed.
- When traffic is moderate but not heavy

If you are caught smoking marijuana the FAA will: 181

- restrict you from flights for the next 48 hours.
- Cancel your sUAS registrations
- Issue an immediate suspension or revocation of your pilot certificate. (x)

The typical outer radius limits of Class C airspace are: 182

- 10 SM.
- 20 NM. (x)
- 30 NM.

NOTE: This test question as presented online is either wrong, **or** referring to a diameter not radius, **or** forcing the test taker to think of logic based on the difference between NM and SM. This note is added here in case you see this on the Internet! **Page 5 of the FAA Study Guide states:** "Although the configuration of each **Class C** area is individually tailored, the airspace usually consists of a surface area with a five nautical mile (NM) radius, an outer circle with a ten NM radius that extends from 1,200 feet to 4,000 feet above the airport elevation. A remote pilot must receive authorization before operating in Class C airspace

Where can you find information about operating in an MOA along your planned route of flight? 183

- Pilot Flight Handbook
- Sectional chart. (x)
- Chart Supplement U.S. (formerly Airport/Facility Directory)

[The MOA is also further defined on the back of the sectional charts with **times** of operation, **altitudes** affected, and the **controlling** agency.]

What is the most effective way for a UA pilot to scan for traffic? 184

- A series of short regularly spaced eye movements scanning 10° segments of the sky. (x)
- Keep the eyes constantly moving side to side
- Listen for any aircraft engines while looking downward at the command station controls

Clouds, fog, or dew will always form when? 185

- Wind settles down
- Water vapor condenses (x)
- Relative humidity decreases

The zone, moving laterally, between different temperature, humidity, and wind is called 186

- Inversion
- Microburst
- A front (x)

You have received an outlook briefing from flight service through 1800wxbrief.com. The briefing indicates you can expect a low-level temperature inversion with high relative humidity. What weather
conditions would you expect? 187

- Smooth air, poor visibility, fog, haze, or low clouds. (x)
- Turbulent air, good visibility, high clouds.

The weather report lists the ceiling at 800 feet. What is the highest you can operate your sUAS? 188

- 400 feet AGL.
- 300 feet AGL. (x)
- 200 feet AGL.

Where are squalls most likely to form? 189

- At any altitude. (x)
- At low altitude.
- At high altitude.

What affect does humidity have on performance? 190

- decreases performance. (x)
- no effect on performance
- increases performance

What is the minimum age to be eligible for the remote pilot certificate? 191

- 15
- 16 (x)
- 17

[§107.57, 107.59] An applicant for a remote pilot certificate must be 16 years of age.

The Administrator or a representative may request to see: 192

- A record of recent flights, such as a logbook.
- The remote pilot in command's remote pilot certificate. (x)
- Any photo identification.

[107.7] Inspection, testing, and demonstration of compliance. (a) A remote pilot in command, owner, or person manipulating the flight controls of a small unmanned aircraft system must, upon request, make available to the Administrator: (1) The remote pilot certificate with a small UAS rating. This regulation also says "Any other document, record, or report *required* to be kept under the regulations of this chapter." The log book and photo ID are not required.

Part 107 specifically prohibits a person from flying a sUAS directly: 193

- Over an active runway.
- Over a person who is not participating in the operation of the sUAS and who is not under safe cover. (x)
- Over a structure more than 400 feet high.

Part 107 specifically prohibits flight over persons not directly participating in the sUAS operations who are NOT protected by a covered structure or in a vehicle. Flight over an active runway is allowed at an airport NOT under controlled airspace.

To maintain visual line of sight with a sUAS, the remote pilot in command may use the aid of: 194

- Binoculars
- Corrective lenses (x)
- A first-person viewing (FPV) device

[§107.31] The Remote PIC must use unaided vision except for the use of corrective lenses.

Regarding visual line of sight (VLOS), the remote pilot in command: 195

- Must maintain VLOS of the sUAS at all times.
- Loss of sight for brief moments is permitted for operational necessity or safety. (x)
- The sUAS may be flown out of visual line of sight if the aircraft is operating autonomously.

The sUAS may be flown out of visual sight for brief moment as an operational necessity or for safety.

Regarding operating a sUAS from a manned, flying aircraft: 196

- Is permitted if the sUAS is to be flown over sparsely populated areas.
- Is permitted when visual observers are positioned along the intended flight path.
- It is not permitted (unless a Certificate of Waiver (CoW) is obtained from the FAA. (x)

[§107.25] Operation from a moving land or water vehicle is permitted over sparsely populated areas. Operation of an sUAS from a moving aircraft is prohibited unless a CoW is obtained prior to the flight

In order to properly yield the right of way to an aircraft approaching the area where your UA is being flown, you must: 197

- Give way to the right of the approaching aircraft.
- Give way to the aircraft and not pass over, under, or in front of the aircraft. (x)
- Remain at least 500 feet below or 2000 feet away from the aircraft.

[§107.39] “Yielding the right of way” means that the UA must give way to the aircraft and may not pass over, under, or ahead of it unless well clear.

A small UA must be operated in a manner that: 198

- Does not exceed 250 feet AGL.
- Requires at least one visual observer.
- Does not endanger the life or property of another. (x)

[§107.31(4)] A visual observer is not required unless you are doing something that may make it difficult for the PIC to clearly see the position UA. 250 feet AGL is not the maximum altitude to operate a UA. C should require no explanation.

The refusal of a remote PIC to submit to a blood alcohol test when requested by a law enforcement officer: 199

- Is grounds for suspension of revocation of his/her remote pilot certificate. (x)
- Can be delayed for a period up to 8 hours after the request.
- Has no consequences to the remote pilot certificate.

[§107.59] Refusal to submit to a blood alcohol test when requested by a law enforcement officer, or to refuse to provide or authorize the release test results is grounds for suspension or revocation of a remote pilot certificate.

After receiving a remote pilot certificate under Part 107 with a small UA rating, how often are you required to complete recurrent training to maintain your PIC UA privileges? 200

- Every 6 months
- Every 12 months
- Every 24 months (x)

[§107.65] A person may not operate a UA unless that person has passed a recurrent test within the previous 24 months.

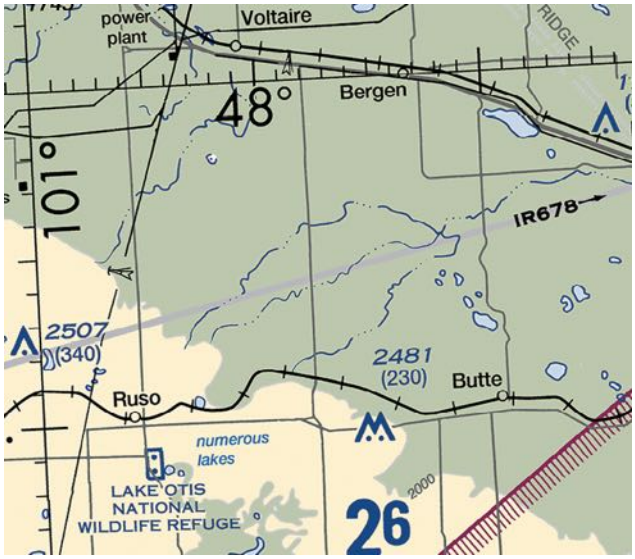
A person who holds a remote pilot certificate who moves and has a permanent change of address must, in order to continue to exercise the privileges of his or her certificate, notify the FAA of the new address within: 201

- 30 days (x)
- 60 days
- 90 days

[§107.77 (b)] A person who has had a permanent change of address may not “after 30 days, exercise the privileges of the certificate unless the holder has notified the FAA of the change of address…”

202

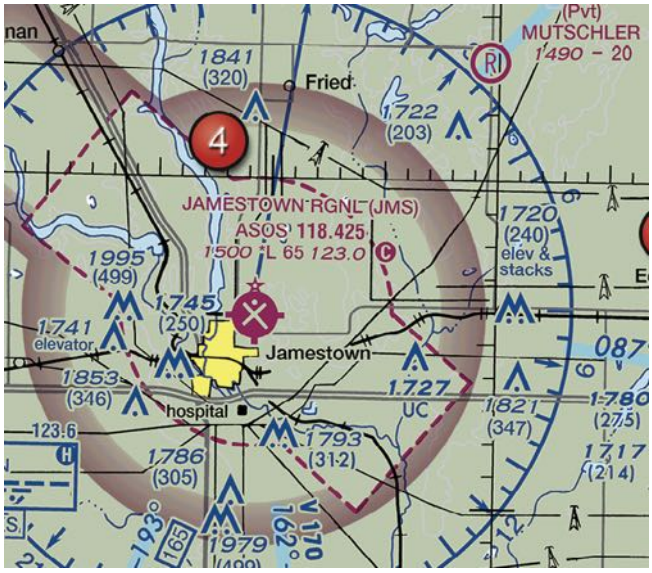
What does the line of latitude indicated by 48° (upper left of the figure) measure?



- The degrees of latitude east and west of the Prime Meridian.
- The degrees north of the equator. (x)
- The degree east or west of the Prime Meridian that passes through Greenwich, England.

Lines of latitude are parallel to, and measured in degrees north or south of the equator. Latitude north of the Equator, including all the United States is “north” latitude.

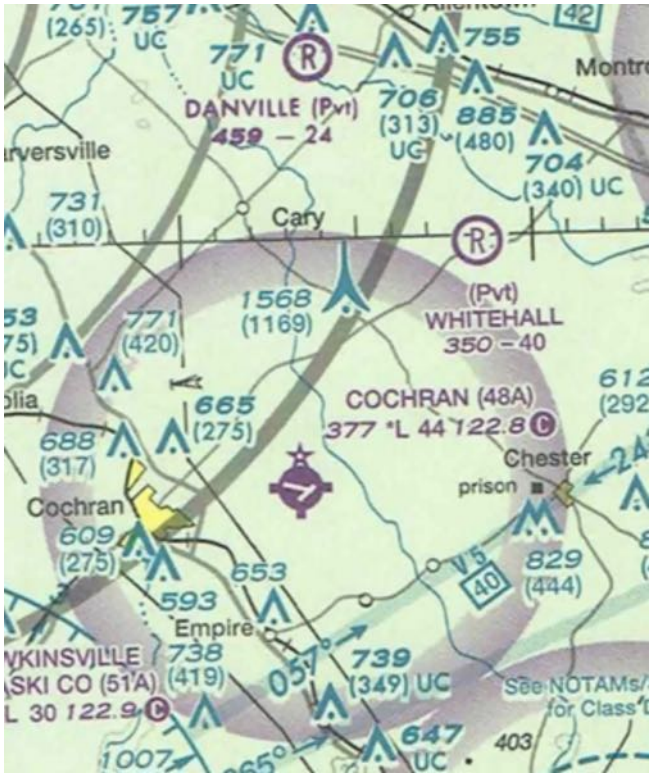
You have received authorization to operate your sUAS near the towers just west of the city of Jamestown, near Jamestown Regional Airport (JMS), which radio communication frequency could be used to monitor manned aircraft flying into and out of the airport? 203



- 123.0 (x)
- 118.425
- 121.0

This is an uncontrolled airport (i.e., no operational control tower). Aircraft are expected to announce their position and intentions using the 123.0 in the airport data. 118.425 is an automated weather reporting frequency. Do NOT use 121.0— this is the frequency set aside for pilots to use for inflight emergencies.

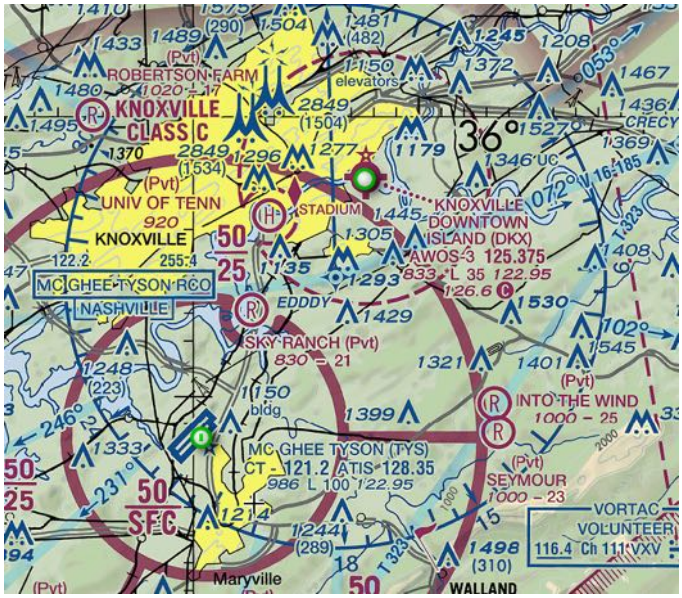
An sUAS is being launched approximately 4 miles north of Cochran Airport. What is the height of the nearest obstacle? 204



- 1169 feet MSL
- 1169 feet AGL (x)
- 1568 feet AGL

The height of obstacles is shown in both feet above sea level (MSL) and above ground level (AGL). The larger of the two numbers in bold blue is the MSL height. The number in parentheses is the AGL height.

You have been hired to use your sUAS to examine the towers two miles north east of Knoxville Downtown Island airport. Prior to the flight you must:



- Check the weather on AWOS.
- Receive Authorization for ATC. (x)
- Obtain a waiver from the FAA.

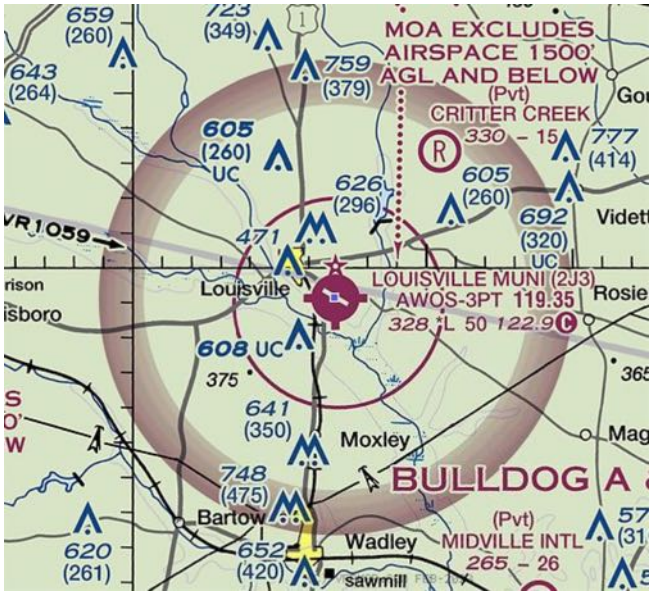
This Class E controlled airspace that begins at ground level as indicated by the dashed magenta circle around the airport.

The most comprehensive information for any given airport can be found in: 206

- Chart Supplements (formerly the Airport Facility Directory) (x)
- Notices to Airmen (NOTAMS)
- Terminal Area Charts (TAC)

The Chart Supplements provide comprehensive information on each airport, including runway lengths and directions, field elevation, all radio frequencies associated with the airport, phone numbers including the airport manager, hours of operation, local hazards, services available, etc.

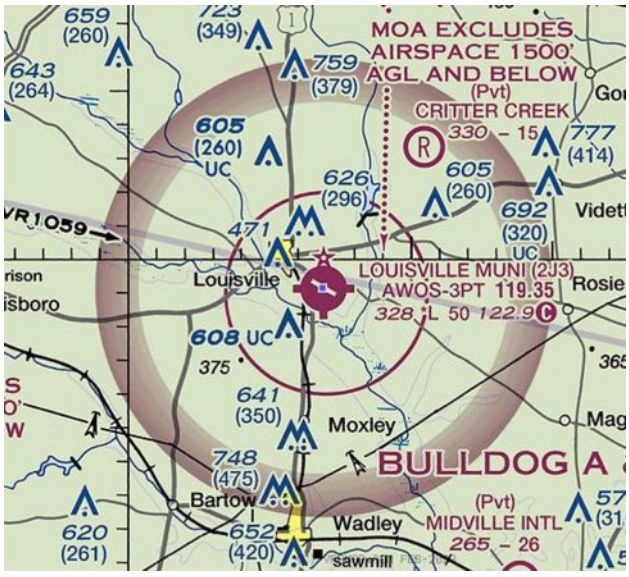
The magenta shaded circle around Louisville Airport indicates:



- Class G airspace beginning at 500 feet above ground level.
- The airport has an operational control tower.
- Class E airspace beginning at 700 feet above the airport. (x)

The shaded magenta circle indicates controlled airspace beginning at 700 feet above the airport (AGL).

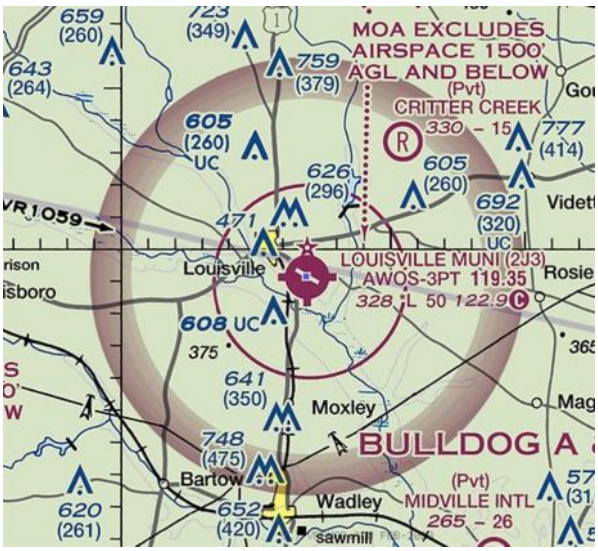
Louisville Airport is: 208



- An uncontrolled airport that provides services to pilots. (x)
- A controlled airport with no services.
- An uncontrolled airport with a paved runway.

The fact that the airport symbol is magenta indicates that it is not a controlled airport. There are tick marks on the edges of the circle, so services are available. The runway is shown inside the airport circle, indicated there is a paved runway.

To obtain current local weather information at Louisville Airport you: 209

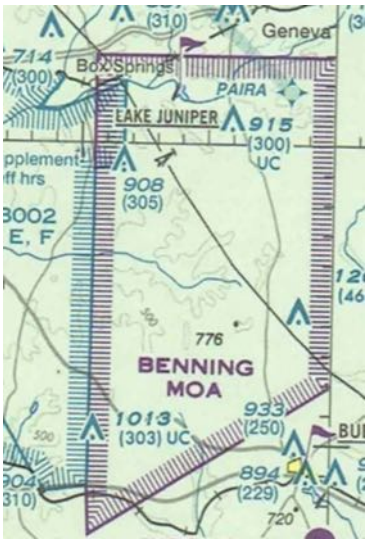


- Can listen tune your radio to and listen to 119.35 (x)
- Can listen on frequency 122.9
- Must contact the local Flight Service Station.

This is the automated weather observation frequency. You could call the local Flight Service Station (FSS), but with the AWOS station, it should not be necessary.

210

The area surrounded by the hash-marked magenta border is a:



- A restricted area.
- A warning area.
- Military Operations Area (x)

Technically the area is not restricted, but the box serves as a warning that there may intense military aircraft activity in the Military Operations Area (the “MOA” should give it away).

Prior to a scheduled sUAS flight the PIC should obtain a: 211

- Standard weather briefing
- An Outlook Briefing (x)
- an Abbreviated Briefing

The correct terminology is an “Outlook Briefing,” which includes both current weather, short term (24 hours) forecasts and the outlook beyond 24 hours.

What effect does a low density altitude have on the efficiency of a UA propeller? 212

- The propeller efficiency will be increased. (x)
- The propeller efficiency will be decreased.
- Density altitude has no effect on propeller performance.

A high density altitude means that the air density is reduced— the term “high” refers to altitude as in a “high altitude” density, which leads to reduced propeller efficiency. Therefore a “low” density altitude indicates denser, lower altitude air, which increases propeller efficiency.

You have received an outlook briefing from the flight from 1800wxbrief.com. The briefing indicates you can expect a low-level temperature inversion with high relative humidity. What weather conditions would you expect? 213

- clear skies and light winds.
- Clouds, fog, haze, or smoke, resulting in diminished visibility (x)
- Turbulence, reduced visibility, dense clouds, heavy rain.

Low level temperature inversions generally provide stable, smooth air, but also trap smoke, haze, and visible moisture reducing visibilities.
(Ref: Pilot's Handbook of Aeronautical Knowledge (FAA-H-8083-25), p. 10-13)

What are the characteristics of unstable air? 214

- Poor visibility and smooth in the area.
- Haze and smoke
- Turbulence and showery precipitation (x)

Turbulence and showery precipitation. Thunderstorms are the result of unstable air.

How can a remote pilot "check NOTAMS" to determine the activity in a restricted area? 215

- Use the B4UFLY mobile application.
- Contact the FAA district office.
- By obtaining a briefing via an online source such as 1800WXBrief.com (x)

The 1800WXBrief.com provides the most comprehensive briefing. The district office is not for weather.

An Airport is located in the Eastern Time zone and the Chart Supplement for that airport includes the following on the top of the diagram: UTC-6(-5DT). 216

The time is 1200Z. What is the local time in February (Central Standard Time)?

- 0600 CST (x)
- 0700 CST
- 1200 noon CST

In the very first line of the posting is the notation UTC-6(-5DT). This is the adjustment from "Zulu" (Z), Greenwich Mean Time, or Coordinated Universal Time (UTC) (they all refer to the same time standard). "UTC-6" means subtract 6 hours from UTC to determine the local time (subtract 5 hours during Daylight Savings Time).

The Chart Supplement for an airport in CST lists "Attended: 1400-0000Z" thus is attended beginning at what time during winter months? 217

- 6:00 am
- 8:00 am (x)
- 1200 Noon

The airport office opens at 8:00 am. Look at Chart Supplement information for Airport remarks, Attended 1400-0000Z

To monitor aircraft radio traffic, your radio should be set to what frequency? 218

- 122.8 (x)
- 128.15
- 121.725

The CTAF/Unicom frequency is 122.8 which is common at many—but not all–uncontrolled airports.

KCHA 141653Z 33007KT 10SM BKN021 OVC033 06/01 A3031 RMK A02 SLP266 T00610006 219

the METeorological Aerodrome Report METAR for Chattanooga, TN. The observation was made on the 14th day of the month at 1653Z (highlighted in yellow). Reading this, you know that at 1653Z the wind was blowing from:

- The northwest at 7 kt. (x)
- The southeast at 21 kt.
- The west at 7 kt.

“33007KT” indicates the wind direction, 330 degrees, and speed, 7 knots (kt.). Wind direction is the direction from which the wind is blowing, therefore the wind is coming *from* 330 degrees or from the northwest and blowing *toward* the south east.

KCHA 141653Z 33007KT 10SM BKN021 OVC033 06/01 A3031 RMK A02 SLP266 T00610006 220

What does the METAR tell you about cloud cover?

- Cloud cover is not reported in METARs.
- There is a broken layer of clouds at 2100 feet and an overcast later at 3300 feet. (x)
- The cloud ceiling at the airport is 3300 feet.

The notation “BKN021 OVC033” indicates the cloud layers at 2100 and 3300 feet. By definition, a ceiling is lowest of broken or overcast cloud layer, which in this case is 2100 feet.

In the decoded text for the TAF, what time of day is that forecast for? 221

FM150200 34005KT P6SM BKN025
FM151200 35005KT P6SM SCT025 BKN250

Decoded Text	FM142200 34007KT P6SM SCT025 BKN035
Forecast period:	2200 UTC 14 January 2019 to 0200 UTC 15 January 2019
Forecast type:	FROM: standard forecast or significant change
Winds:	from the NNW (340 degrees) at 8 MPH (7 knots; 3.6 m/s)
Visibility:	6 or more sm (10+ km)
Ceiling:	3500 feet AGL
Clouds:	scattered clouds at 2500 feet AGL, broken clouds at 3500 feet AGL

- 1400 Chattanooga time.
- 2200 UTC (x)
- 2:00 pm local time.

See “Forecast period” The forecast time is 2220 UTC.

According to the forecast, at what time could you expect there to be a cloud ceiling over the airport, using Central Standard Time? 222

FM150200 34005KT P6SM BKN025
FM151200 35005KT P6SM SCT025 BKN250

Decoded Text	FM142200 34007KT P6SM SCT025 BKN035
Forecast period:	2200 UTC 14 January 2019 to 0200 UTC 15 January 2019
Forecast type:	FROM: standard forecast or significant change
Winds:	from the NNW (340 degrees) at 8 MPH (7 knots; 3.6 m/s)
Visibility:	6 or more sm (10+ km)
Ceiling:	3500 feet AGL
Clouds:	scattered clouds at 2500 feet AGL, broken clouds at 3500 feet AGL

- 0200 CST
- 1600 CST (x)
- 0800 CST

In aviation, the cloud ceiling is defined as the lowest broken or overcast cloud layer. According to the forecast, there will already be a ceiling of broken clouds at 3500 feet AGL as of 2200 CST on the 14th. Since Central Standard Time (CST) is UTC-6, the local time at Chattanooga Metropolitan Airport (KCHA) will be 1600H.

To ensure that the unmanned aircraft center of gravity (CG) limits are not exceeded, follow the aircraft loading guidelines specified in the: 223

- Remote Pilot's Drone Flight Manual (x)
- Aircraft Weight and Balance Handbook
- Aeronautical Information Manual (AIM)

For certified person-carrying aircraft this would be the best answer, and it also is for an sUAS, however many capable UAs available on the market to not include weight and balance in the literature provided with the aircraft because they are not designed to carry any additional payload or equipment.

You plan to add an additional camera to your UA. During installation and mounting, you should mount it in such a manner that: 224

- It is visible to the visual observer or other crew members.
- It does not adversely affect the UA center of gravity. (x)
- It is easily accessible.

If not properly balanced, a fixed-wing UA could easily stall, or fail to climb. A rotorcraft may be difficult to control or position properly.

What precaution should you take with lithium batteries to prevent possible fires or damage? 225

- Allow the battery to charge until the temperature reaches 100°.
- Store batteries in a freezer to allow proper charging.
- Follow the manufacturer's recommendations for safe battery charging and handling. (x)

This answer is almost always the correct answer, whatever the question regarding UA maintenance and batteries. Extremes of heat and cold are not good for Li-based batteries.

Safety is an important consideration during any UA operation. To prevent the final link in a potential accident sequence, a remote pilot should consider which methodology. 226

- Crew Resource Management
- Risk Management (x)
- The Safety Management System

This is the part of decision making that requires awareness and good judgement to recognize and reduce risks during a flight. The objective is to identify and eliminate potential risks. While both safety and CRM enhance safety and mission performance, Risk Management is the only one with "Risk" in its title. (Pilot's Handbook of Aeronautical Knowledge, 16-4)

Crew Resource Management (CRM) can effectively enhance the efficiency and safety of any activity that involves two or more individuals. To be the most effective, CRM must be integrated into: 227

- The flight portion of the flight, since not all crew members may be involved in the planning.
- All aspects of the communication between team members.
- All phases of the operation. (x)

All individuals involved, from preflight planning to flying the mission, are part of the team. Each person is a resource in some way or another, and it is the responsibility of the UA PIC to ensure that all members are aware of their contributions and performance duties throughout the full cycle.

Prior to a flight requiring a visual observer, the PIC and the VO go over the mission so that each know what to expect, and what to be alert for. This kind of planning is an example of: 228

- Crew Resource Management (CRM) (x)
- Safety Management
- Team communications only.

The objective of CRM is to ensure each member of the team understands his or her role, what is expected, how it contributes to the overall mission, etc. The proper application of CRM should make flight operations more efficient, safer, and more profitable.

Which technique should the PIC and other members of the team use to scan for traffic or other hazards during the UA's flight? 229

- Systematically focus on specific areas of the sky for short intervals. (x)
- Rely on peripheral vision to detect of moving objects in the sky.
- Continuously scan (sweep) the sky from side to side or up and down.

Peripheral vision is good for big things like trucks and cars as you cross the street (and even then, it may not work!)—not for identifying gray airplanes against a gray sky. The eye needs a brief moment to detect and focus on any distant object. The scan must look ahead and behind the UA since manned aircraft can overtake the UA.

Which is true regarding the presence of alcohol in the human body? 230

- Judgement and decision-making abilities can be adversely affected by even small amounts of alcohol. (x)
- A small amount of alcohol increases visual acuity.
- Consuming an equal amount of water will increase the destruction of alcohol and alleviate a hangover.

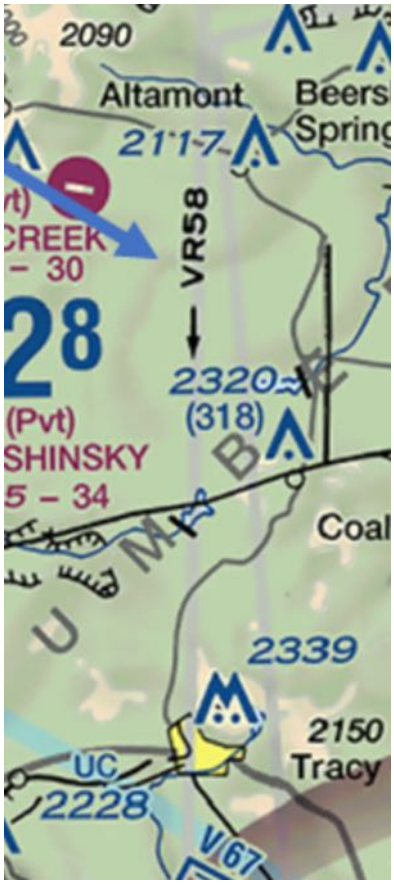
“A” always has to be the first and only answer. Consuming water does not accelerate the metabolism of alcohol, and alcohol does not sharpen vision.

How often is the PIC expected to inspect the condition and airworthiness of the UA. 231

- Monthly
- Annually
- Before each flight. (x)

This should be obvious. Pilots always preflight their aircraft before a flight—the same should be true of UA pilots. And it is not a bad idea to do a post-flight inspection just to make sure nothing has to be fixed before the next flight.

Note the blue arrow near Piney Creek airport. It is pointing to the number VR58. VR58 is a: 232



- Victor Airway
- Low -Level Military Training Route (x)
- VOR Radial

The grey line indicates a military training route. While low-level VR routes are typically suffixed by three digits (i.e. VR256), routes number 001 to 099 have the zeroes dropped in maps and are instead shown as VR1 to VR99.

You are a remote pilot for a co-op energy service provider, you are to use your UA to inspect power lines in a remote area that is a 15-hour drive from your home. After the drive, fatigue impacts your ability to complete your assignment on time. Fatigue can be recognized: 233

- As something that can be overcome by an experienced pilot.
- As being in an impaired state. (x)
- Easily, even by inexperienced pilots.

Fatigue is an impaired state, and a 15-hour drive is very likely to cause fatigue. The plan would be to drive the day before the planned flight, stay overnight, and fly the mission, rested and alert.

A UAV pilot is showing off his flying skills performing potentially hazardous maneuvers to several friends. This is an example of: 234

- Invulnerability
- Machismo (x)
- Impulsivity

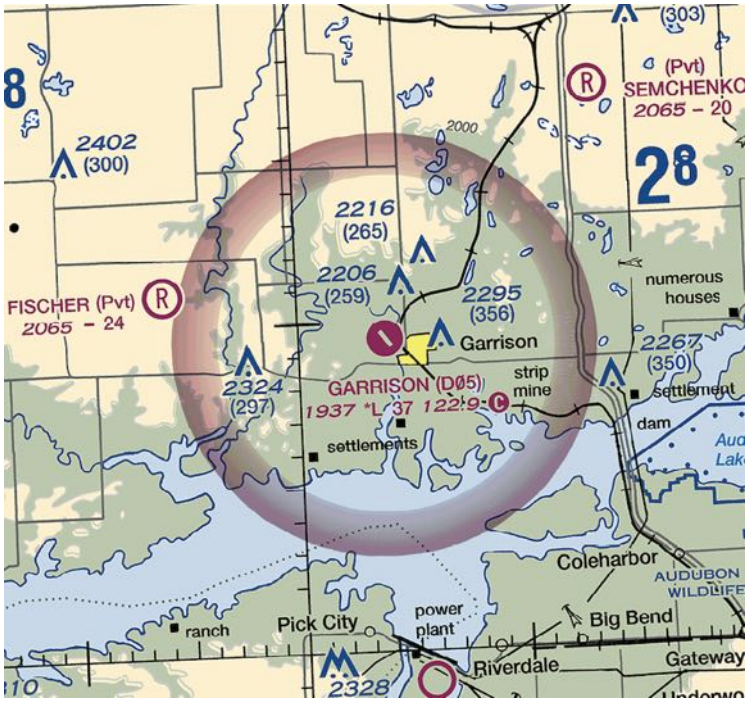
The correct answer is: Machismo it is.

While examining your intended area of operations on a sectional chart, you discover gray arrows labeled "VR1667" and "VR1668" nearby. Do these symbols pose a risk to your operations? 235

- Yes, these indicate military exercises at below 1500 feet AGL. (x)
- No, these only indicate the ground speed of aircraft passing by the area
- No, these indicate military exercises at above 1500 feet AGL

236

What is the floor of the Class E airspace that surrounds Garrison Municipal Airport?

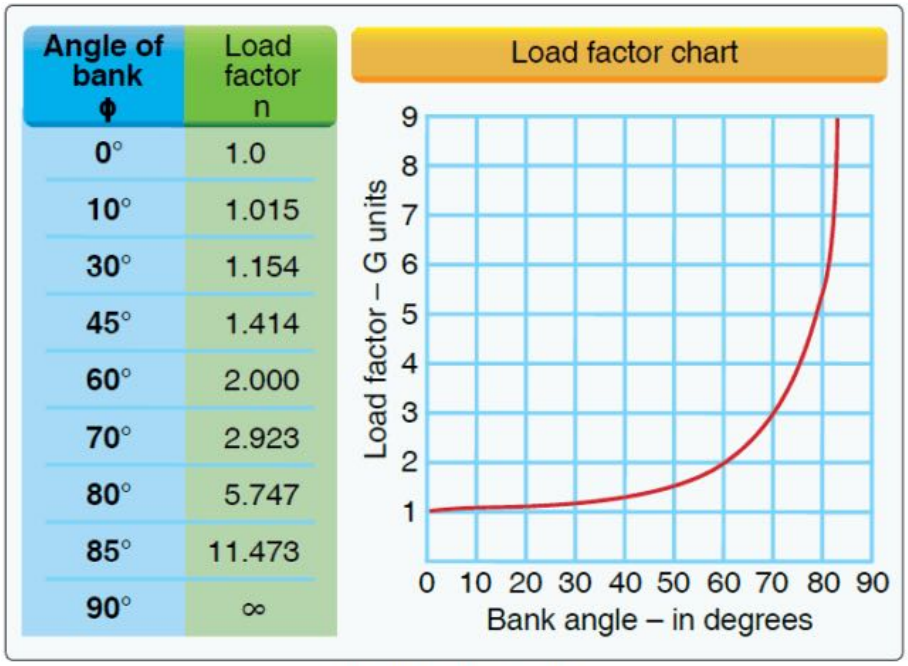


- 1937 feet MSL
- 2637 feet MSL (x)
- 700 feetMSL

This is a question that appears simple, but is actually intricate. The shaded magenta circle indicates Class E airspace which is 700 feet (blue shaded would be 1200 feet. These measurements are presented in AGL, and the choices do not include the option to respond ‘700 feet AGL.’ In fact, all the options are written in MSL.

Look at the elevation for the airport in MSL (1937 feet) and add 700 (for the AGL vertical height) to get the total MSL height! That is what ends up with the answer 2637 feet MSL.

What approximate weight would an unmanned airplane's structure be required to support during a 60 degree banked turn while maintaining altitude if the plane weighs 15 pounds?



Angle of bank ϕ	Load factor n
0°	1.0
10°	1.015
30°	1.154
45°	1.414
60°	2.000
70°	2.923
80°	5.747
85°	11.473
90°	∞

Figure 2. Load Factor Chart.

- 30 pounds (x)
- 15 pounds
- 22 pounds

The left column of the table corresponds to the graphs X axis (bottom), while the right column corresponds to the red line itself.

Given that the aircraft is making a 60-degree banked turn, you can identify that a 60-degree bank angle correlates to a load factor of two. Simply multiply the load factor by the aircraft's weight, and you will discover that a 15-pound aircraft doing a 60-degree banked turn will require the aircraft structure to sustain 30 pounds-that's double the aircraft's weight! If the altitude is to be maintained, the wing must create lift equal to these load factors.

What are some of the typical features of unstable air? 238

- Good visibility and showery precipitation (x)
- Fog ad haze
- Continuous, steady precipitation

There are two types of air in aviation weather: 'stable' air and 'unstable' air. Stable air is generally characterized by smooth, flying weather, poor visibility, and continuous steady precipitation.

Unstable air masses are typically made up of locations with a lot of rapidly rising warm air. This is usually characterized by good visibility, a lot of turbulence, and showery precipitation.

Scheduled maintenance should be carried out in accordance with the _____ . 239

- Contractor requirements.
- Manufacturers suggested procedures. (x)
- Stipulations in 14 CFR part 43.

Which of the following consequences could be caused by the damaged lithium batteries? 240

- An in-flight fire. (x)
- A change in aircraft center of gravity.
- Increased endurance.

NOTE from pilot experience and not likely to show up on any test: ‘Damaged’ might also include a battery that (for whatever reason) fails to adequately hold a charge and at some point in flight the percent battery drops rapidly—so rapidly as to require immediate return to home or even landing at a location in advance of reaching the takeoff location.

Which of the following circumstances does NOT require a remote PIC to complete a preflight inspection on their sUAS? 241

- Preflight inspections are required before each flight. Thus no scenario precludes such an inspection. (x)
- Preflight inspections are only required for the first flight of the day. So any other flight does not require such an inspection.
- If the subsequent flight occurs immediately, following a flight before which an inspection was made.

242

What is the recommended communication protocol when operating near Cooperstown Airport?

- Broadcast intentions when 10 miles out and monitor transmissions on the CTAF/MULTICOM frequency, 122.9 MHZ (x)
- Contact UNICOM, when 10 miles out on 122.8 MHz.
- Circle the airport in a left turn prior to entering traffic monitoring transmissions on 122.9 MHz

A local television station has engaged a remote pilot to fly their small UA to cover breaking news stories. The remote pilot has had several close calls with obstacles on the ground, as well as two minor UAS accidents. What is the best way for the news station to strengthen its operating safety culture? 243

- The news station does not need to make any changes; there are times that an accident is unavoidable.
- The news station should implement a policy of no more than five crashes/incidents within six months.
- The news station should recognize hazardous attitudes and situations and develop standard operating procedures that emphasize safety. (x)

Under what circumstances should a small unmanned aircraft operator adopt a scheduled maintenance protocol? 244

- when the manufacturer does not provide a maintenance schedule. (x)
- small unmanned, care, craft systems do not require maintenance.
- when the FAA requires you to, following an accident.

Follow all manufacturer maintenance recommendations to ensure the sUAS has the longest and safest service life possible. If the sUAS or component manufacturer does not provide a scheduled maintenance instructions, it is recommended that you create your own.

A pilot can mitigate stress by _____ . 245

- removing stress from personal life. (x)
- increasing stress tolerance.
- breathing into a paper bag.

There are numerous ways available to assist in managing the accumulation of life, stressors and preventing stress overload. Set aside time each day for relaxation or maintain a physical fitness program, for example, to help reduce stress levels. To avoid stress overload, learn to manage time more effectively in order to avoid the pressures created by falling behind schedule and failing to meet deadlines.

Ironically, the Study Guide does include a suggestion to reduce on-the-spot anxiety by breathing into a paper bag.

A pilot flying on a heading of 090 degrees receives the following alert from an ATC radar facility: 246

"UNMANNED AIRCRAFT OPERATIONS 3 O'CLOCK, 2 MILES..."

In reference to the UA, where should the remote PIC (also a visual observer) search for this traffic?

- South
- North (x)
- West

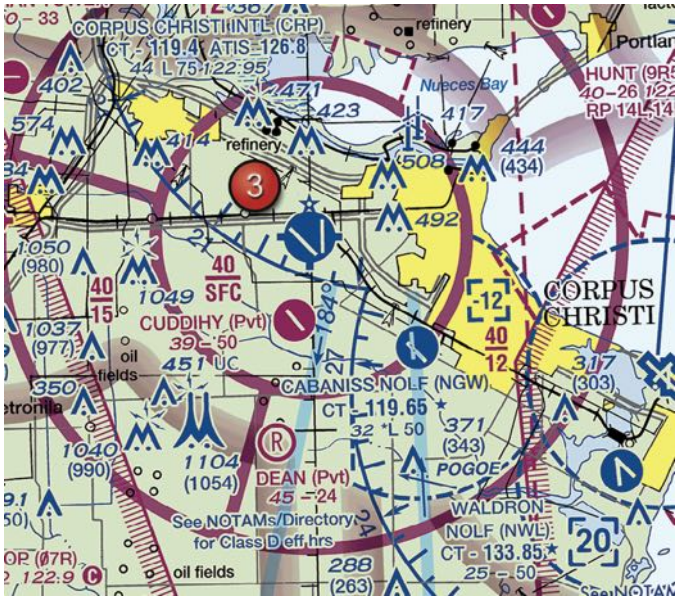
Traffic information will be given in as a azimuth from the aircraft in terms of the 12 hour clock. As a result, each hour represents a 30° angle. If an aircraft we're flying east on a heading of 90°, traffic at 3 o'clock would be 90° right of the nose, south of the aircraft. If the sUAS is flying south of the aircraft, the aircraft is flying north of the operation.

Where could wind shear be found? 247

- at high altitudes
- at all altitudes (x)
- at low altitudes

Wind shear is defined as a sudden and dramatic change in wind, speed and/or direction over a small area. Wind shear may cause an aircraft to experience, strong, updrafts and downdrafts, as well as sudden changes in horizontal movement. While wind shear may occur at any altitude, low level wind, shear is particularly dangerous, owing to the aircraft's proximity to the ground.

You are checking the lighted towers around 8 nautical miles southwest of Corpus Christi International Airport (CRP). What is the lowest level of cloud cover that allows you to check the top of the tower? 248



- 1604 feet MSL (x)
- 1,104 feet MSL
- 1,054 feet MSL

Part 107 stipulates that the minimum distance between the sUAS and clouds be 500 feet below the cloud. The towers indicated eight nautical miles south west of CRP are 1,104 feet MSL. 1,104 + 500 = 1,604 feet MSL

A strong, consistent wind blows from the north. Your mission is to photograph a region to the south of your current location. You are on a wide open field with no obstacles. Which of the following is not an issue during this procedure? 249

- Strong wind conditions may consume more battery power at a faster rate than calm conditions.
- Turbulent conditions will likely be a significant factor during the operation. (x)
- Strong wind may exceed the performance of the sUAS making it impossible to recover.

Unmanned aircraft have limited performance, and may require more power to hold position or conduct additional movements in high wind conditions than in calm air. If the wind is strong enough, the sUAS's performance may be insufficient to counteract the wind and making it difficult to return back to your point of mission origin.

Every physical weather process is accompanied by or results from a _____ . 250

- Heat exchange (x)
- movement of air
- pressure differential

Every physical weather process is accompanied by, or results from, unequal heating of the Earth’s surface.

What measurement may be used to determine atmospheric stability? 251

- Surface temperature
- Actual lapse rate (x)
- Atmospheric pressure

The difference between a particular mass of air’s existing lapse rate and the adiabatic rates of cooling in upward moving air determines whether the air is stable of unstable.

Lapse rate is the rate of fall in temperature of atmosphere with elevation.

From NOAA: adiabatic rates: The rate of decrease of temperature experienced by a parcel of air when it is lifted in the atmosphere under the restriction that it cannot exchange heat with its environment.

252

The VFR minimum visibility requirements over Plantation Airport are _____ .

- 5 NM
- 1 SM
- 3 SM (x)

Regardless of location, crew members must execute sUAS Part 107 operations with a minimum visibility of 3 statute miles as perceived from the control station.

When loading cameras or other equipment on an sUAS, how should these items be mounted? 253

- In a manner that does not adversely affect the center of gravity (x)
- In a manner that is visible to the visual observer or other crew members
- in a manner that can be easily removed without the use of tools

Any mounted equipment should be balanced such that it does not adversely impact the center of gravity or cause unsafe performance.

What are the risks of operating a small unmanned aircraft above its maximum permitted weight? 254

- faster speed
- shorter endurance (x)
- Increased maneuverability
- Longer endurance

What function does a rudder serve on a sUAS plane? 255

- The rudder controls pitch
- The rudder controls bank
- The rudder controls yaw (x)

The rudder controls yaw, while the ailerons control bank and the elevator controls pitch.

Which of the following factors influences the amount of excess load that may be applied on an airplane's wing? 256

- The speed of the airplane (x)
- The position of the CG
- The abruptness at which the load is applied

Add slow speeds, the wing's maximum available lifting force is just slightly higher than the amount required to support the sUAS weight. At high speeds, however, the capacity of the flight controls or a strong gust may cause the load factor to exceed safe limits.

How does an uphill terrain slope affect launch performance? 257

- Decrease launch distances
- Increase launch distance (x)
- Increase launch speed

The effect of runway slope on launch distance is related to the component of weight along the aircraft's inclined path. An accelerating force component would be created by an upslope. In the case of an upslope, the retarding force component adds to drag and rolling friction, lowering the net accelerating force.

What will happen to a UAV if it is in a 45 degree banking turn? 258

- Stall at a lower speed
- Stall at a higher speed (x)
- Be more susceptible to spinning

The stall speed increases in direct proportion to the square root of the load factor. As a result, with a load factor of 4, an aircraft will stall at double the typical stall speed.

The purpose of the No Entry sign is to _____ . 259

- Identify a paved area where aircraft are prohibited from entering (x)
- Identify area that doesn't continue beyond intersection
- Identify the exit boundary for the runway protected area.

A no entry sign prevents an aircraft from entering a restricted area. This sign is often placed on a taxiway. That is only meant to be used in one direction, or at the intersection of vehicle, roadways with runways, taxiways, or aprons where the roadway might be mistaken for a taxiway or other aircraft movement service.

What do the blue dashed lines surrounding the airports indicate? 260

- A terminal control area (TCA)
- Class D controlled airspace beginning at the surface (x)
- Class D controlled airspace beginning at 500 feet AGL.

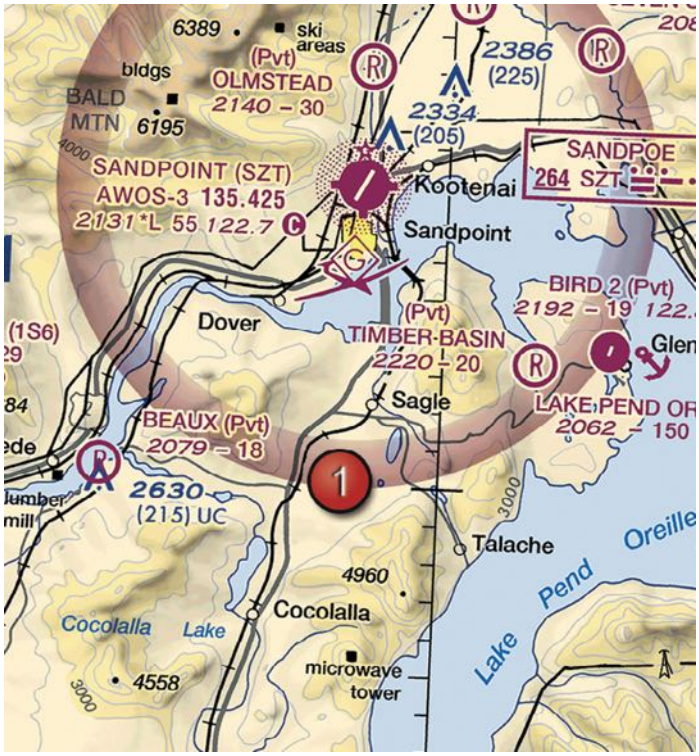
This is Class D controlled airspace that extends from the surface to any overlying controlled airspace. Air Traffic Control will demand prior authorization for UA flights in this area.

Manned aircraft entering traffic patterns while descending create specific collision risks and _____ . 261

- Should be avoided (x)
- are illegal
- Should be used whenever possible

262

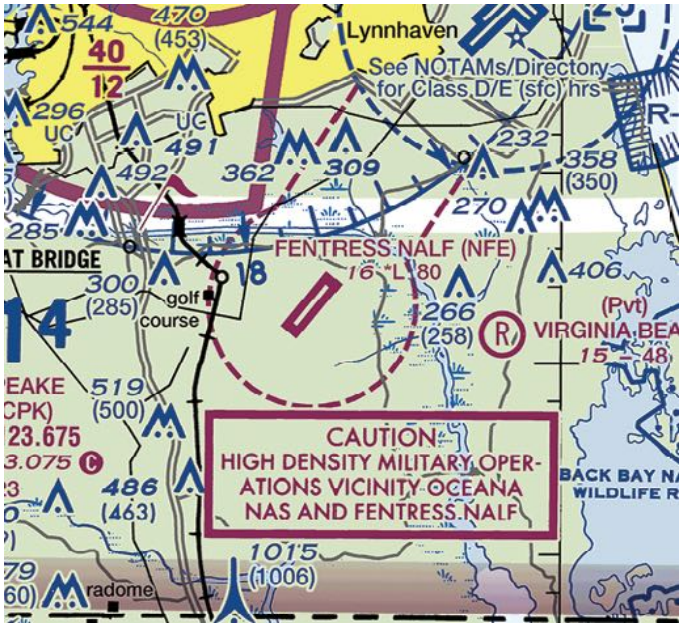
You've been hired to shoot Lake Pend Oreille from a vantage point just east of Cocolalla. You discover a hill that might give wonderful panoramic photography opportunities. What is the maximum altitude (MSL) at which you are permitted to fly over the hill?



- And you cannot operate your UA ass without ATC permission because you will be in a class E airspace above 1200 MSL.
- You cannot operate your UAS above 400 MSL, and thus cannot operate anywhere in this part of the country of the country
- You may operate up to 5360 feet MSL in class G airspace (x)

The hill is 4,960 feet above sea level. As a result a sUAS can fly up to 400 feet AGL, or 5360 feet. The floor of the air space, such as Class E is measured in AGL rather than MSL.

The Fentress NALF Airport (NFE) is classified as _____ airspace.



- Class E (x)
- Class C
- Class G

Starting at the airport and working outwards until you reach the first airspace class symbol is the best way to answer these airspace questions. It's a dashed magenta line in this context. The airport surface is designated as class E by a dashed magenta line.

B = Solid Blue Line

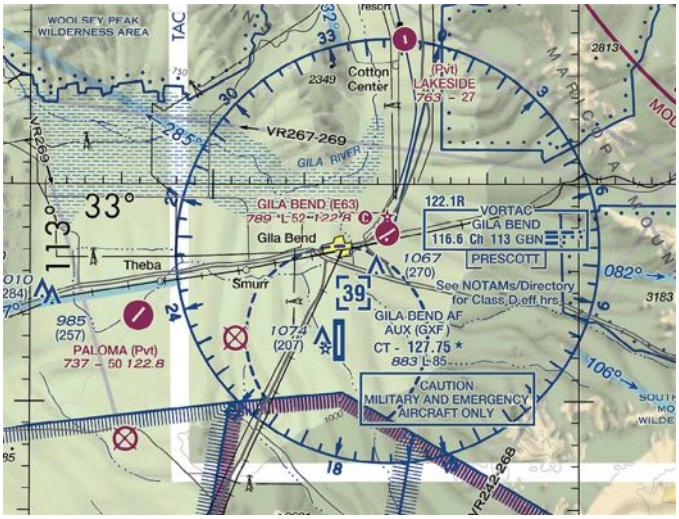
C = Solid Red

D = dashed blue

E = dashed red

E = red line with haze inside floor at 700 feet; blue line with haze inside floor at 1200 feet

In which classification (Class ?) is the airspace surrounding the Gila Bend AF AUX Airport (GXF) (area 6) classified?



- Class C
- Class B
- Class D (x)

A dashed blue line surrounds the GXF airport, indicating that it is in class D airspace.

B = Solid Blue Line

C = Solid Red Line

D = dashed blue

E = dashed red

E = red line with haze inside floor at 700 feet; blue line with haze inside floor at 1200 feet

What will a pilot do as a manned aircraft approaches an airport in Class G airspace without an operating control tower? 265

- Fly left hand traffic pattern at 800 feet AGL
- Enter and fly a traffic pattern at 800 feet AGL
- Make all turns to the left, unless otherwise indicated. (x)

When a manned aircraft approaches a class G airport without an operating control tower, each pilot will make all turns to the left unless the airport displays approved light signals or visual markings indicating that turns should be made to the right (which will be detailed in the Chart Supplement US).

An sUAS is used by personnel at an outdoor music venue to drop promotional t-shirts and CDs over the audience. Is this sUAS operation in accordance with 14 CFR 107? 266

- not compliant with part 107 (x)
- No, unless authorized by the venue
- Yes, compliant with part 107

Under what conditions are lithium batteries permitted to be carried during sUAS operations? 267

- Lithium batteries may be carried only when installed as the primary power for the operation. (x)
- Lithium batteries may be carried in a sealed storage container away from the sUAS fuel source
- Lithium batteries are prohibited from UAS operations

Part 107 does not consider lithium batteries installed in a sUAS for power during operation to be hazardous materials. Spare, uninstalled, lithium batteries, on the other hand, would fall within the category of hazardous material, and hence could not be transported on the sUAS.

[This is confusing for drone pilots who may take a second and spare battery along for additional flight time. Drone carry bags often contain spaces for a second or even third battery. The wording of the question does not indicate a second battery is attached to the sUAS during flight. And obviously a second battery should not be mounted or carried on the UA or sUAS!]

Which of the following is the best definition of an "Unmanned aircraft"? 268

- A device is operated without the possibility of direct human intervention from within or on the aircraft (x)
- A device is operated during search and rescue operations other than the public
- A device is operated for hobby and recreational use, when not certified

You intend to fly a 33-pound sUAS over real estate to take aerial photos for use in sales listings. What FAA regulations apply to this sUAS operation? 269

- 14 CFR Part 107 (x)
- 14 CFR Part 101
- This operation is not subject to FAA regulations

Part 107 since the flight is for business and commercial purpose.

_____ might be requested to be presented to the Administrator or a representative? 270

- Any photo identification
- A record of recent flights, such as a logbook
- The remote pilot in commands’s remote pilot certification (x)

A remote pilot in command, owner, or anyone, manipulating the flight controls of a small, unmanned aircraft system shall provide the Administrator with the following information upon request: the remote pilot certificate with a small UAS rating: "Any other document, record, or report required to be kept under the regulations of this chapter," which is also stated in this regulation. The logbook and photo ID are not required.

You hear an aircraft declare that they are midway left downwind to RWY 13 while monitoring the Cooperstown CTAF. What would the plane's position be in relation to the runway? 271

- The aircraft is West
- The aircraft is East (x)
- The aircraft is South

Correct answer: The aircraft is East.

NOTE: “left downwind” means the aircraft is flying parallel to the runway, where the runway is to the “left” of the pilot, and the aircraft is flying opposite (or 180 degrees) from the Runway 13 heading of 130 degrees. Again, if you’re having trouble with compass orientation, it can be really helpful to sketch this one out on a blank sheet of paper.

The angle of _____ is the angle formed by the chord line of an airfoil and the relative wind. 272

- Attack (x)
- Lift
- Incidence

The angle between the chord line of an airfoil and the relative wind is known as the angle of attack.

A small UA causes an accident, and one of your crew members passes out. When do you notify the authorities about the accident? 273

- Within 10 days of the accident. (x)
- When requested by the UA owner.
- No accidents need to be reported

107.9 accident reporting. "No later than 10 calendar days after an operation that meets the criteria of either paragraph (c) or (b) of this section[.]”

Which of the main groups of airspace is classified as controlled airspace? 274

- Class B, C, E, and D (x)
- Class B, C, D, and G
- Class B, C, E, and G

Downdrafts are most common during which stage of the thunderstorm lifecycle? 275

- Dissipating (x)
- Cumulus
- Mature

Small unmanned aircraft systems are subject to registration requirements. Under what conditions would a small UA not be required to register before operating in the United States? 276

- All small UAS need to be registered, regardless of the weight of the aircraft before, during, and after the flight
- When the aircraft has a takeoff weight, that is more than 0.55 pounds, but less than 55 pounds, not including fuel, and necessary attachments. [This weight range for part 48. Remember that part 47 is 455 pounds and heavier drones!]
- When the aircraft weighs less than .55 pounds on takeoff, including everything that is on board or attached to the aircraft. (x)

Your unmanned aircraft (sUAS) collided with an automobile, causing more than $500 in damage. When do you have to notify the FAA? 277

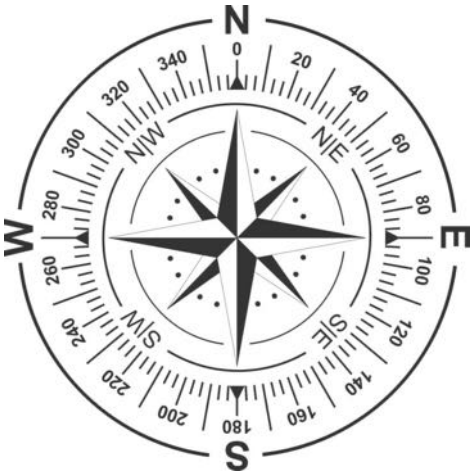
- You don’t because there wasn’t more than $1000 damage
- Within 10 business days
- Within 10 calendar days (x)

“Left downwind for runway one six,” announces an aircraft. This indicates that the aircraft is heading in the direction of: 278

- 340 degrees (x)
- 160 degrees
- 80 degrees

Runway ‘one six’ = 160

If an aircraft is left downwind of the runway, it means they’re flying parallel to the runway, in the opposite, downwind direction (the runway is to the pilot’s left, hence “left downwind”). So the opposite heading (or 180 degrees from) 160 degrees is 340 degrees. It can be helpful to sketch this type of question out on a separate sheet of paper.



What characterizes a moist, unstable air mass? 279

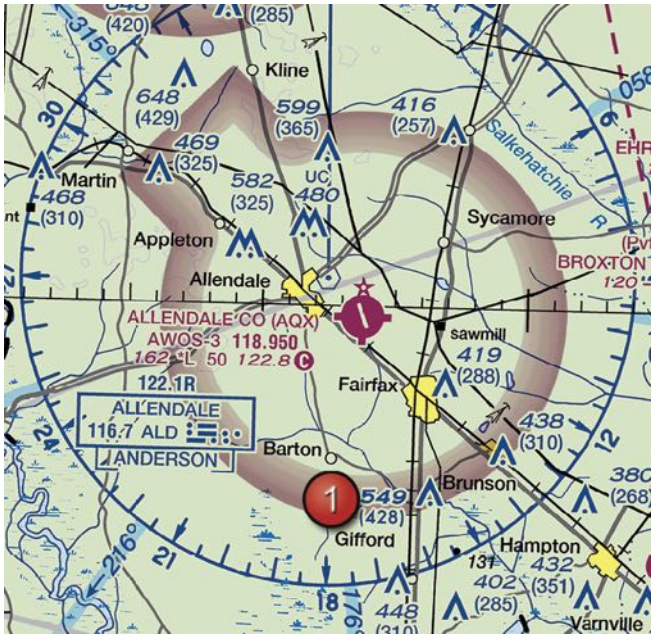
- Haze and smoke
- poor visibility and smooth air
- Turbulence and showery precipitation (x)

When an airplane wing stalls, the angle of attack is: 280

- Increase if the center of gravity (CG) is moved forward
- Remain the same regardless of gross weight (x)
- Change with the increase in gross weight

281

When scanning for air traffic activity near Allendale Airport, which frequency should be used as the Common Traffic Advisory Frequency (CTAF)?

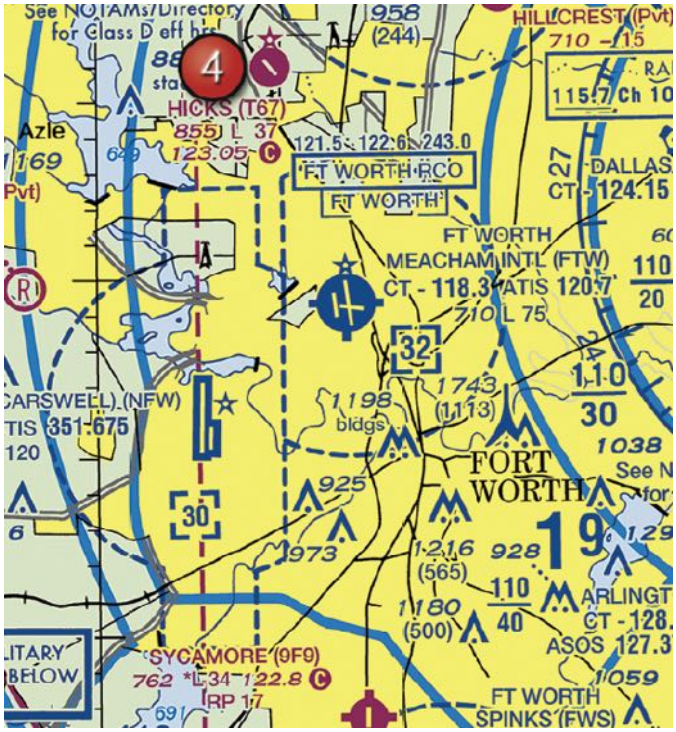


- 118.950
- 122.4
- 122.8 (x)

The Allendale Airport, with its magenta-colored symbol, is an example of an uncontrolled airport. Pilots are expected to self-announce their position and intention every time they approach this airport because there is no air traffic control. These are broadcast on the CTAF for that airport, which is conveniently noted on sectional charts for that airport.

When looking for the CTAF for an uncontrolled airport, check for the frequency next to the magenta C symbol. The CTAF is 122.8 in the case of Mason Jewett Airport.

Hicks Airport (T67) northwest of Fort Worth Meacham International Airport (FTW), a Class B airspace floor.



- 2,000 feet MSL
- 3,000 feet MSL
- 4,000 feet MSL (x)

Determine the location of Hicks Airport (T67). In that section of the chart, search for the fraction 110/40, which indicates the ceiling and floor of Class B airspace. Each portion contained by the blue solid line has a different ceiling and floor, so scan your eyes inside Hicks Airport's enclosed space. The 110/40 indicates that the Class B airspace ceiling is 11,000 feet MSL and the floor is 4,000 feet MSL in that part of the chart.

In the terminal radar program, TRSA Service provides 283

- Sequencing and separation for participating VFR aircraft (x)
- Warning to pilots when their aircraft are in unsafe, proximity to to rain, obstructions, or other aircraft
- IFR separation (1,000 feet vertical and 3 miles lateral) between all aircraft.

TRSA Service in the terminal radar program provides sequencing and separation for participating VFR aircraft.

What are the properties of air that is unstable? 284

- Turbulence and good surface visibility (x)
- Nimbostratus clouds and good surface visibility
- Turbulence and poor visibility

You intend to fly a drone approximately 4 miles north of Cochran Airport. What is the height of the nearest obstacle in the area, according to the sectional chart? 285

- 1169 MSL
- 1568 AGL
- 1568 MSL (x)

Within 60 nautical miles of the DCA VOR in Washington, D.C., under what conditions may a pilot fly VFR? 286

- As long as the pilot has completed a special awareness training, and remains clear of the SFRA (x)
- Only if the pilot has completed special awareness training, and filed a flight plan
- None

Special Flight Rules Area (SFRA)

When using either normal remote identification or a broadcast module, where must a small unmanned aircraft's serial number be listed? 287

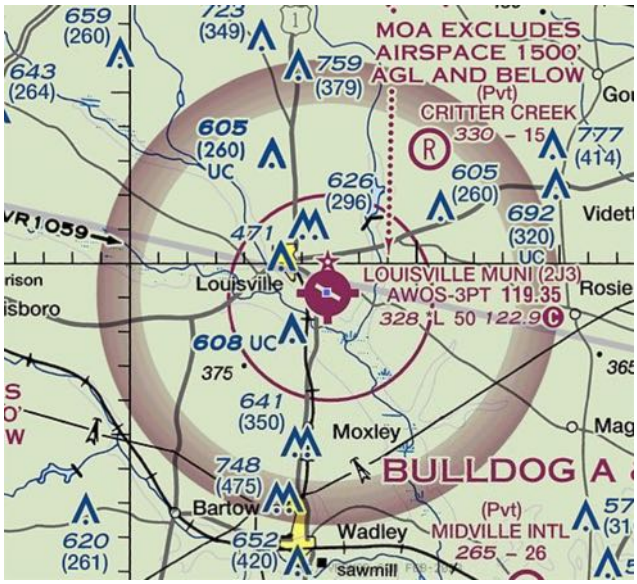
- The manufacturer’s method of compliance
- The aircraft’s document of compliance
- The certificate of aircraft registration (x)

What is the cure to a pilot's hazardous "anti-authority" attitude? 288

- I know what I am doing
- Rules do not apply in this situation
- Follow the rules (x)

Follow the rules is the antidote when a pilot has the hazardous attitude of “Anti-authority."

In the sectional charts, Louisville Airport is encircled by a magenta-shaded circle, indicating that it is an uncontrolled airport. What is the significance of this magenta circle? 289

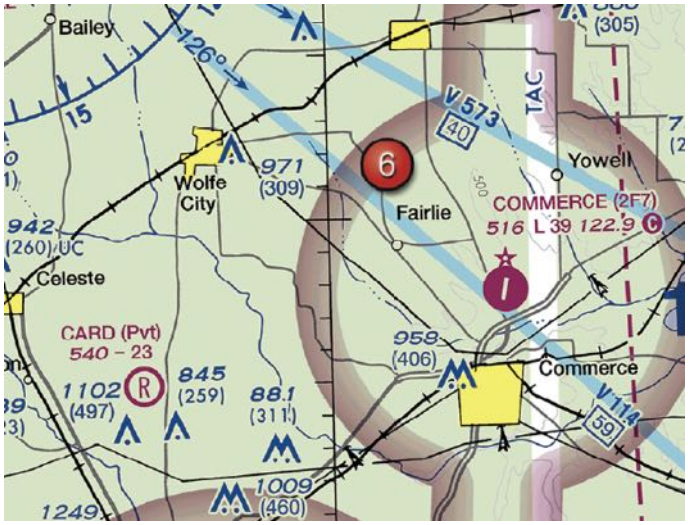


- Class E airspace from the surface up to 700 feet
- Class E airspace from 700 feet (x)
- Class G airspace up to 400 feet

For this question, the shaded magenta circle represents Class E airspace. Specifically, the shaded magenta border refers to Class E airspace from 700 feet. Class E airspace can also be represented by broken magenta lines (surface to 700 feet) or a shaded blue line (starting at 1200 feet above).

290

Card Airport is what type of airport?



- Public non-towered
- Public towered
- Private non-towered (x)

The FAA requires which category of small unmanned aircraft to have an airworthiness certificate? 291

- 4 (x)
- 2
- 3

See full set of category descriptions in the FAA document: Executive Summary Final Rule on Operation of Small Unmanned Aircraft Systems Over People December 28, 2020 (download at):

https://www.faa.gov/news/media/attachments/OOP_Executive_Summary.pdf

Moisture is added into the air by: 292

- Evaporation and sublimation (x)
- Sublimation and condensation
- Evaporation and condensation

You've been assigned to survey an area that falls under Class C airspace. Which of the following preferred methods must be completed prior to beginning the operations? 293

- Contact the relevant air traffic control (ATC) facility
- Request for airspace authorization via LAANC (x)
- Submit a plan for risks and mitigating measures to the FAA

The advent of the **LAANC** system has made obtaining authorization to fly in controlled airspace easier for Part 107-licensed drone pilots. This means that a waiver request that contains details on the planned operations, the anticipated risks, and the related mitigation measures is no longer required. Drone pilots no longer need to contact the concerned ATC of the controlled airspace because requests made through LAANC are consolidated by the FAA. Instead, the FAA will be the one to notify them of the details of your operation. This makes the process easier for both the FAA and drone operators.

What value does the Weather Depiction Chart have for the pilot? 294

- For determining frontal trends and air mass characteristics
- For forecast of cloud coverage, and frontal activity
- For determining general weather conditions on which to base flight planning (x)

The chart is Figure 18. (Test booklet figure)

The weather depiction chat is for determining general weather conditions on which to base flight planning.

You intend to launch golf balls from your small UA at a height of 100 feet above ground level. You must make certain that the objects being dropped will 295

- not create an due hazard to persons or property (x)
- not cause damage in excess of $300
- Land within 10 feet of the expected landing zone

Section 107.23 says: “No person may … (b) Allow an object to be dropped from a small unmanned aircraft in a manner that creates an undue hazard to persons or property."

Which of the following types of operations are exempt from the 14 CFR part 107 requirements? 296

- When the sUAS weighs less than .55 pounds. (x)
- Using an sUAS for capturing aerial imagery for crop monitoring
- Using an sUAS for motion picture filming

NOTE: When this question was posted online, this first choice may have been true previously (pre-2020) … however, go to the following FAA web page:

https://www.faa.gov/uas/getting_started

FAA states regarding Certified Remote Pilot:

- If you fly for commercial, government, or any other non-recreational purposes you must:
  - Learn the regulations for certificated remote pilots
  - Become a certificated remote pilot
  - **Register all drones** less than 55 pounds at FAA DroneZone

Is remote identification required for a drone? 297

- There is no indication of any such requirement
- Yes, starting in September of 2023 (x)
- Yes, your drone must have remote ID attached starting January 2023

FAA: "Beginning September 16, 2023, all drone pilots required to register their drone must operate their aircraft in accordance with the remote ID rule for pilots, which gives drone owners sufficient time to upgrade their aircraft."

https://www.faa.gov/uas/getting_started/register_drone

Drone activities from a moving vehicle are only permitted under Part 107 guidelines if the following conditions are met: 298

- it is done over a sparsely populated area (x)
- it is done by a Part 107 licensed drone pilot
- the drone remains within visual line of sight

Based on Rule 107.25, operations of a drone from a moving vehicle, whether on land or at water, is generally prohibited. The only exception is if it is done over a sparsely populated area. The FAA has no guidelines on what constitutes a “sparsely populated” area, stating only that such circumstances will be evaluated on a case-per-case basis.

During one of your small UA's flights, you notice a hot air balloon approaching the area. You need to 299

- Ensure the UAS passes below, above, or ahead of the balloon
- expect the hot air balloon to climb above your altitude
- Yield the right-of-way to the hot air balloon (x)

The _____ provide the most comprehensive information about a certain airport: 300

- Notice to Airmen (NOTAM)
- Terminal Aerial Chart (TAC)
- The Chart Supplements U.S. (x)

The most comprehensive information available on a given airport is provided by the Chart Supplements U.S. (formerly Airport Facility Directory).

What is the minimum age requirement for obtaining a Part 107 remote pilot certificate? 301

- 13
- 16 (x)
- 18

When winds of 40 knots or more blow _____, possible mountain wave turbulence can be expected. 302

- Down a mountain valley, and the air is unstable
- Parallel to mountain peak, and air is stable
- Across a mountain ridge, and the air is stable (x)

Possible mountain wave turbulence could be anticipated when winds of 40 knots or greater blow across a mountain ridge, and the air is stable.

NOTE: this seems difficult to rectify without careful read, but the sample question obtained from a 'training source' is providing the answer. Just be aware that test questions are at times **tricky** … so see if you can eliminate one or two choices to help focus on an answer.

Study Guide: Wind at mountain top level in excess of 25 knots (~28 mph) suggests some turbulence. Wind in excess of 40 knots (~46 mph) across a mountain barrier dictates caution.

For operating in certain airspace, prior authorization is required. How may a remote pilot operate an unmanned aircraft in class C airspace, according to 14 CFR part 107? 303

- The remote pilot must contact the Air Traffic Control (ATC) facility after launching the unmanned aircraft.
- The remote pilot must monitor the ATC frequency from launch to recovery.
- The remote pilot must have prior authorization from the ATC facility having jurisdiction over that airspace (x)

You are going to need an airspace waiver:

Part 107.41 says: "no person may operate a small unmanned aircraft in class B, class, C, or class D airspace, or within the lateral boundaries of the surface area of a class E airspace designated for an airport unless that person has prior authorization from Air Traffic Control." The FAA is handling those authorizations via a waiver process currently.

See information about LAANC: https://www.faa.gov/uas/getting_started/laanc

What is the purpose of LAANC? 304

- directly supports UAS integration into the airspace (x)
- posts notifications regarding general flight conditions
- outlines regulations for model aircraft

LAANC addresses:

Drone pilots with access to controlled airspace at or below 400 feet.
Awareness of where pilots can and cannot fly.
Air Traffic Professionals with visibility into where and when drones will operate.

LAANC is the **Low Altitude Authorization and Notification Capability**, a collaboration between FAA and Industry. It directly supports UAS integration into the airspace:

https://www.faa.gov/uas/getting_started/laanc

Before operating an unmanned aircraft system, a remote pilot must consider several factors, including safety. A remote pilot must consider which methodology to avoid the final "link" in the accident chain. 305

- Safety Management System
- Crew Resource Management
- Risk Management (x)

To prevent the final “link” in the accident chain, a remote pilot must consider the risk management.

Your drone is involved in an accident and crashes while doing a commercial drone operation. Which of the following outcomes does the FAA not require you to report? 306

- Hey serious injury that requires the victim to be hospitalized
- Damage to a car that will cost around $750 to repair
- A minor injury to a person that needs to be addressed with first aid (x)

Section 107.9 outlines the reporting requirements for Part 107 drone pilots. Among the events that need to be reported to the FAA within 10 days are accidents that result in serious personal injury or loss of consciousness, or property damage that costs more than $500 to repair. In our case, only option A (minor injury) is exempted from the reporting requirements.

What reference used by an air traffic controller for issuing radar traffic information in relation to the 12-hour clock? 307

- magnetic heading
- ground track (x)
- true course

The FAA Study Guide appears to not focus on 'true course' of 'ground track.' Both would indicate something about direction of the aircraft ...

Looking for some intended meanings online: from **Wikipedia** "In air navigation, **ground tracks** typically approximate an arc of a great circle, this being the shortest distance between two points on the Earth's surface. In order to follow a specified **ground track, a pilot must adjust their heading in order to compensate for the effect of wind**. Aircraft routes are planned to avoid restricted airspace and dangerous areas, and to pass near navigation beacons."

"In navigation, the **course** of a watercraft or aircraft is the cardinal direction in which the craft is to be steered. The course is to be distinguished from the *heading*, which is the direction where the watercraft's bow or the aircraft's nose is pointed."

Military Training Routes, also known as VFR Military Training Routes (VR) and IFR Military Training Routes (IR), are designed to provide the highest level of practical safety for all flying operations while allowing the military to: 308

- Low-altitude high speed training (x)
- Air-to-air refueling training
- High-altitude training over 3,000 feet MSL

How long do your rights as a licensed pilot last after earning the Part 107 remote pilot certificate before you have to go through recurrent training? 309

- 24 calendar months (x)
- 12 calendar months
- 36 calendar months

While the remote pilot certificate itself has no expiration date, the privileges granted to you to operate commercially are only valid for 24 calendar months after the date on your initial written exam results. This means that you need to pass a recurrent knowledge test or go through recurrent training (if you have a Part 61 pilot certificate) before you can continue to operate your drone for profit.

What's the difference between Area A and Area E on the diagrammed airport? 310

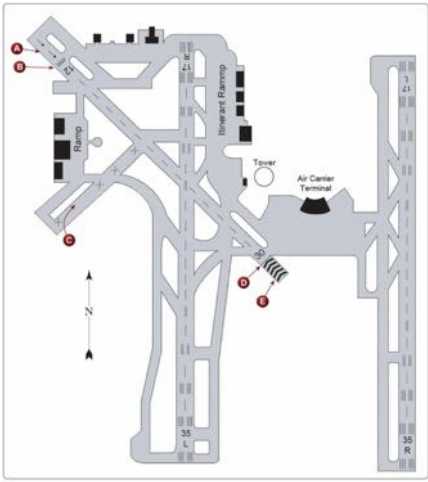


FIGURE 48.—Airport Diagram.

See figure 48 in Airman Knowledge Testing Supplement for Flight Instructor, Ground Instructor, and Sport Pilot Instructor (FAA-CT-8080-5H)

https://www.faa.gov/sites/faa.gov/files/training_testing/testing/supplements/sport_rec_private_akts.pdf

- "A "may be used only for taxiing; “E" may be used for all operations except landings
- “A" may be used for all operations except heavy aircraft landings; "E "may be used only as an overrun
- "A "may be used for taxi and take off; "E "may be used only as an over run (x)

While flying your drone at night, you see a manned aircraft. A red flashing light is on the left, while a green flashing light is on the right. In which direction is the plane flying? 311

- It’s not an airplane as there’s no flashing beacon
- The airplane is heading towards you
- The airplane is heading away from you (x)

The test supplement does not include a picture of an airplane with position of lights. Looking forward like the pilot the lights are situated:

Red = Port side (left)

Green = Starboard side (right)

What does "SHRA" stand for in the KMEM TAF? 312

TAF KMEM 091730Z 0918/1024 15005KT 5SM HZ FEW020 WS010/31022KT FM091930 30015G25KT 3SM SHRA OVC015 TEMPO 0920/0922 1/2SM +TSRA OVC008CB …

- A significant change in precipitation is possible
- A shift in wind direction is expected
- Rain showers (x)

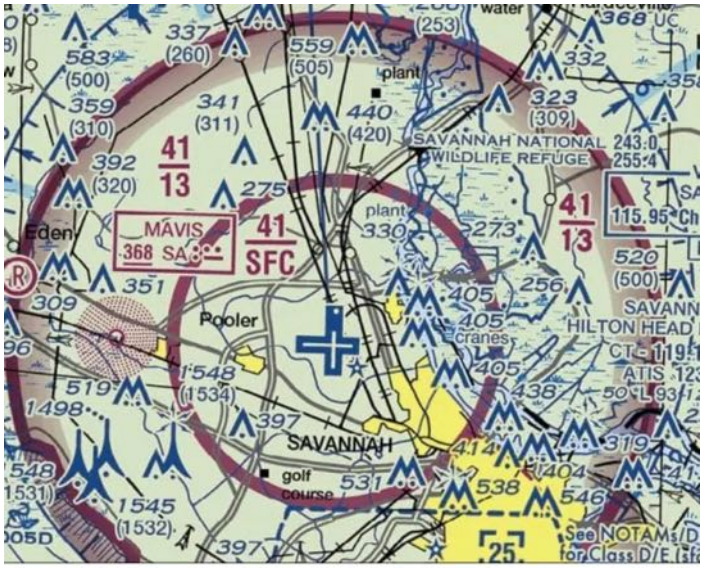
(Refer to FAA-CT-8080-2H, Figure 25, Area 3.) The floor of Class B airspace at Dallas Executive (RBD) is ... 313

- 3,100 feet MSL
- at the surface
- 3,000 feet MSL (x)

[Class B airports are huge up side down wedding cakes. The B overhangs the Class D airspace. If you see the Class D top says [-30]. The minus means up to but NOT including 3,000. Right near it you see the 110/30 which means Class B is 3,000-11,000 ft.]

314

(Refer to FAA-CT-8080-2H, Figure 23, area 3.) What is the floor of the Savannah Class C airspace at the shelf area (outer circle)?



- 1,300 feet AGL
- 1,300 feet MSL (x)
- 1,700 feet MSL

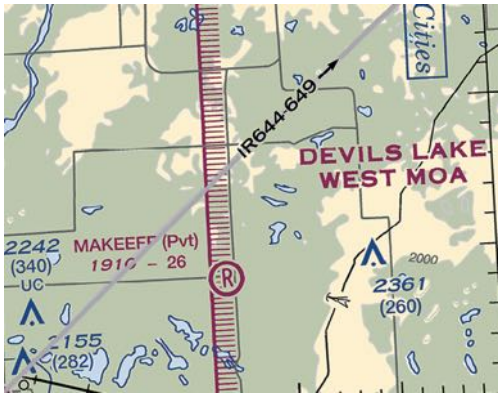
(Refer to FAA-CT-8080-2H, Figure 75, Area 6.) During preflight planning, you plan to operate in R-2305. Where would you find additional information regarding this airspace?

315

- In the Special Use Airspace area of the chart
- In the Charts Supplements U.S. (x)
- In the Aeronautical Information Manual

There is a section in the Chart Supplement for the Southwest for this specific restricted area

(Refer to FAA-CT-8080-2H, Figure 21.) You have been hired by a farmer to use your small UA to inspect his crops. The area that you are to survey is in the Devils Lake West MOA, east of area 2. How would you find out if the MOA is active? 316



- This information is available in the Small UAS database
- Refer to the legend for special use airspace phone number (x)
- In the Military Operations Directory

Correct for the test. Refer to the legend for special use airspace phone number.

[**Note** If using a digital map like Skyvector (https://skyvector.com/) make sure the sectional chart at the top right is clicked and then you move over all the way to the left and you'll see a list of all the MOAs. Otherwise … this is how to figure out if it is active or not. You can either:

(1) Check to see if there is an active NOTAM on https://www.notams.faa.gov/dinsQueryWeb/ which has its own MOA tab,

(2) check on https://pilotweb.nas.faa.gov/PilotWeb/

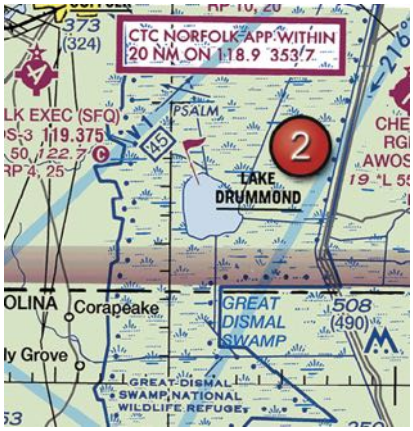
(3) call up **1-800-WX-BRIEF**

(Refer to FAA-CT-8080-2H, Figure 23, Area 4.) What is the required flight visibility for a remote pilot operating an unmanned aircraft near the Plantation Airport (JYL)? 317

- 1 statute mile
- 3 statute miles (x)
- 5 statute miles

318

(Refer to FAA-CT-8080-2H, Figure 20, area 2.) Why would the small flag at Lake Drummond of the sectional chart be important to a remote pilot?



- This is a GPS checkpoint that can be used by both manned and remote pilots for orientation
- This indicates that there will be a large obstruction depicted on the next printing of the chart
- This is a VFR checkpoint for manned aircraft, and a higher volume of air traffic should be expected there. (x)

Lots of aircraft means greater chance for mid-air collision

(Refer to FAA-CT-8080-2H, Figure 20, area 5.) How would a remote Pilot in Command (PIC) "CHECK NOTAMS" as noted in the CAUTION box regarding the unmarked balloon? 319

- By a briefing via an online source such as: 1800WXBrief.com (x)
- By utilizing the B4UFLY mobile application
- By contacting the FAA district office

What are the current conditions for Chicago Midway Airport (KMDW)?* 320

UA.III.A.K2

[METAR KLAX 121852Z 25004KT 6SM BR SCT007 SCT250 16/15 A2991

SPECI KMDW 121856Z 32005KT 1 1/2SM RA OVC007 17/16 A2980 RMK RAB35]

- Sky 7000 feet overcast, visibility 1-1/2SM, heavy rain
- Sky 700 feet overcast, visibility 11, occasionally 2SM, with rain
- Sky 700 feet overcast, visibility 1-1/2SM, rain. (x)

Time, wind direction and speed, visibility in SM, clouds, Temperature/ dew point, altimeter in inches of mercury. It is almost always the same format.

321

The wind direction and velocity at KJFK is from*

UA.III.A.K2

[SPECI KJFK 121853Z 18004KT 1/2SM FG R04/2200 OVC005 20/18 A3006]

- 180 degrees true at 4 knots (x)
- 040 degrees true at 18 knots
- 180 degrees magnetic at 4 knots

This is how you remember if something is true or magnetic. “If it is in print, it must be true.” The only exceptions are for runways, VOR compass rose, and AWOS/ASOS headings when you call from a phone

You have received an outlook briefing from flight service through 1800wxbrief.com. The briefing indicates you can expect a low-level temperature inversion with high relative humidity. What weather conditions would you expect? 322

- Light wind shear, poor visibility, haze, and light rain
- Turbulent air, poor visibility, fog, low stratus type clounds, and showery precipitation
- Smooth air, poor visibility, fog, haze, or low clouds (x)

A temperature inversion means some warm air on top of some cold air. The cold air underneath on the ground, along with a high relative humidity, means you are expecting fog in the cooler area. You should also check the METARS for the airports in the area as you will most likely have a temperature/dewpoint spread that is low. Example 12/10. The air will be smooth because there is little convection.

When operating an unmanned airplane, the remote pilot should consider that the load factor on the wings may be increased anytime 323

- The airplane is subjected to maneuvers other than straight and level flight (x)
- The gross weight is reduced
- The CG is shifted rearward to the aft CG limit

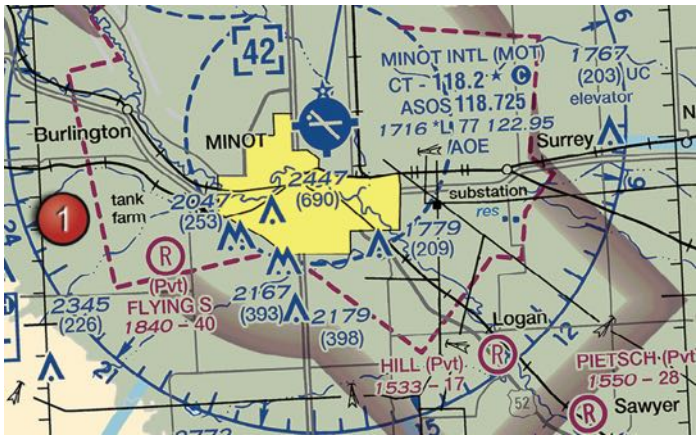
324

(Refer to FAA-CT-8080-2H, Figure 26, area 2.) While monitoring the Cooperstown CTAF you hear an aircraft announce that they are midfield left downwind to RWY 13. Where would the aircraft be relative to the runway?

- the aircraft is West
- the aircraft is South
- the aircraft is East (x)

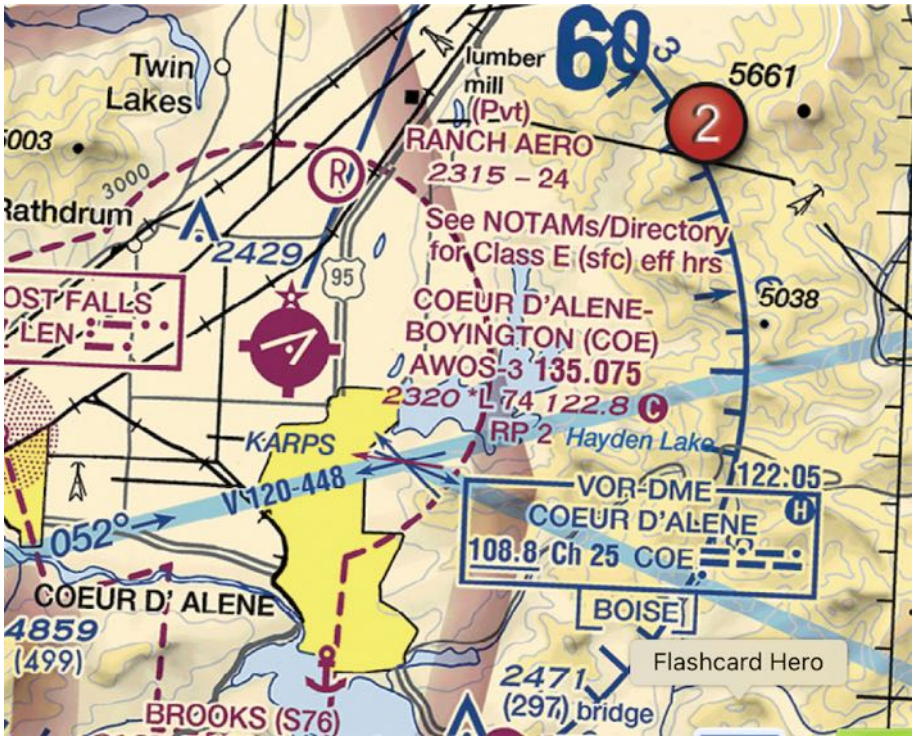
Runway 13 has a magnetic heading of 130. Keep in mind that our **VFR sectionals are in true (true north)**, not magnetic, but **VORs and runway headings are magnetic**. Identify which way the airplane took off by looking at the runway orientation. The runways on the map are relatively close to what they are in reality. The airport pattern in the U.S. goes to the left (the captain or pilot tends to fly on that side and has a better view of the runway and it is the law). The **exceptions** to this are if ATC at a tower, visual markings or lights, AFD, or the sectional with an **RP** symbol next to the airport say otherwise. There is no RP on Cooperstown so it is left. Helicopters are required by law to avoid the flow of fixed-wing aircraft and tend to be lower.

(Refer to FAA-CT-8080-2H, Figure 21, Area 1.) After receiving authorization from ATC to operate a 325 small UA near Minot International airport (MOT) while the control tower is operational, which radio communication frequency could be used to monitor manned aircraft and ATC communications?



- ASOS 118.725
- UNICOM 122.95
- CT-118.2 (x)

(Refer to FAA-CT-8080-2H, Figure 22, area 2.) At Coeur D`Alene which frequency should be used as a Common Traffic Advisory Frequency (CTAF) to monitor airport traffic? 326



- 122.05 MHz
- 135.075 MHz
- 122.8 MHz (x)

327

(Refer to FAA-CT-8080-2H, Figure 20, Area 4.) A small UA is being launched 2 NM northeast of the town of Hertford. What is the height of the highest obstacle?

- 399 feet MSL
- 500 feet MSL
- 500 feet AGL (x)

This question is a bit tricky. Read carefully ... the aeronautical chart user's guide (page 12) says: "Whenever possible, the FAA depicts specific obstacles on charts. However, in high-density areas like city complexes, only the highest obstacle is represented on the chart using the group obstacle symbol to maximize legibility."

You have been hired to inspect the tower under construction at 46.9N and 98.6W, near Jamestown 328 Regional (JMS). What must you receive prior to flying your unmanned aircraft in this area?

- Authorization from the military
- Authorization from ATC (x)
- Authorization from the National Park Service

This is Class E airspace going up from the surface at an airport—as indicated by dashed line. The surrounding magenta halo indicates Class E airspace starts at 700ft.

To convert the decimal point such as 0.6 degrees; multiply 0.6 x 60. The result is 36 minutes (6 tick marks per .1). [60 tick marks per degree; which are on the sectional chart grid]

According to Part 107, you'll need authorization to operate within Class E at the surface airspace.

(Refer to FAA-CT-8080-2H, Figure 24, Area 3, and Legend 1.) For information about the parachute operations at Tri-County Airport, refer to 329

- Chart Supplements U.S. (x)
- Notes on the border of the chart
- The Notices to Airmen (NOTAM) publication

The parachute sign is next to the airport. Legend 1 clues you in to look at the chart supplement even

(Refer to FAA-CT-8080-2H, Figure 78. Near the center of the figure.) What class of airspace is associated with SIOUX GATEWAY/COL DAY (SUX) Airport?

- Class D airspace (x)
- Class B airspace
- Class C airspace

This is evidenced by the blue dashes. Technically, it also have some E at the surface airspace extensions which are marked by the dashed magenta lines

Sources for airport data: Aeronautical charts. (Refer to FAA-CT-8080-2H, Figure 20, area 3.) With ATC authorization, you are operating your small unmanned aircraft approximately 4 SM southeast of Elizabeth City Regional Airport (ECG). What hazard is indicated to be in that area? 331

- Unmarked balloon on a cable up to 3,008 feet MSL (x)
- Unmarked balloon on a cable up to 3,008 feet AGL
- High density military operations in the vicinity

Keep in mind that if you are flying 4SM from the airport, you are within 4 nautical miles from the airport. Class D airports generally have a radius of 4NM. You would need an airspace waiver to operate in this area.

To avoid a possible collision with a manned airplane, you estimate that your small UA climbed to an altitude greater than 600 feet AGL. To whom must you report the deviation? 332

- The National Transportation Safety Board
- Upon request of the federal aviation administration (x)
- Air Traffic Control

UA = unmanned aircraft

When adapting crew resource management (CRM) concepts to the operation of a small UA, CRM must be integrated into 333

- All phases of the operation (x)
- the flight portion only
- the communications only

“All groups routinely working with the flight crew who are involved in decisions required to operate a flight safely. These groups include, but are not limited to pilots, dispatchers, cabin crew members, maintenance personnel, and air traffic controllers.”

When a remote pilot-in-command and a visual observer define their roles and responsibilities prior to and during the operation of a small UA is a good use of ... 334

- Single Pilot Resource Management
- Crew Resource Management (x)
- Authorization Resource Management

CRM is really the effective use of all available resources: human, hardware, and information. This is highlighting the human portion.

Most midair collision accidents occur during 335

- Hazy days
- Cloudy days
- Clear days (x)

The numbers 8 and 26 on the approach ends of the runway indicate that the runway is oriented approximately 336

- 008 degrees and 026 degrees true
- 080 degrees and 260 degrees magnetic (x)
- 080 degrees and 260 degrees true

Runway numbers are always expressed in relationship to magnetic north

When a control tower located on an airport with class D airspace ceases operation for the day, what happens to the air space designation? 337

- The air space reverts to class E, or a combination of class E & G airspace during the hours the tower is not in operation (x)
- The airspace designation normally will not change
- The airspace remains class D airspace as long as a weather, observer or automated weather system is available

In order to submit airspace request to fly at night, you should … 338

- Submit all request via the FAA drone zone website
- Submit a LAANC request if available (x)
- Contact the controlling agency and request approval

What will a pilot do as a manned aircraft approaches an airport in Class G airspace without an operating control tower? 339

- Make all turns to the left, unless otherwise indicated (x)
- Fly a left hand, traffic pattern at 800 feet AGL
- Enter and fly a traffic pattern at 800 feet AGL

Which answer is most correct … who might ask you to present your remote pilot certificate with a small UAS rating? 340

- The Administrator
- An authorized representative of the National Transportation Safety Board
- Any Federal, State, or local law enforcement officer
- An authorized representative of the Transportation Security Administration
- Any of the persons listed here might ask you (x)

§107.7 Inspection, testing, and demonstration of compliance. (§ 107.7 .2) reveals all four of the possible persons fall under this type of request. Many other sample questions focus just on Administrator … so read each question very carefully!

Select all that do not apply to Part 107: 341

- Air carrier operations (x)
- Any aircraft subject to the provisions of 49 U.S.C. 44809 (x)
- Any operation that the holder of an exemption under section 333 of Public Law 112-95 or 49 U.S.C. 44807 elects to conduct pursuant to the exemption, unless otherwise specified in the exemption (x)

This is a question generated directly from the eCFR 14 Part 107

https://www.ecfr.gov/current/title-14/chapter-I/subchapter-F/part-107

Which of the following Part 107 subpart D categories prohibits "exposed rotating parts that would lacerate human skin upon impact with a human being?" 342

- Category 1
- Category 2
- Category 3
- Category 4
- Categories 1, 2 and 3 (x)

You might want to review subsection D (use link below), some example questions have asked about which flight category applies to sUAS.

https://www.ecfr.gov/current/title-14/chapter-I/subchapter-F/part-107/subpart-D

Which of the following choices applies to the commission by any person of an act prohibited under paragraph (a) of this section is a basis for any of the following? (Select all that apply) 343

- Denial of an application for a remote pilot certificate or a certificate of waiver (x)
- Denial of a declaration of compliance (x)
- Suspension or revocation of any certificate, waiver, or declaration of compliance issued or accepted by the Administrator under this part and held by that person (x)
- A civil penalty (x)

Taken directly from eCFR 14 Part 107

Any person holding an FAA-accepted declaration of compliance under subpart D of this part must, upon request, allow the Administrator to: 344

- inspect its facilities
- technical data
- any manufactured small UAS
- witness any tests necessary to determine compliance
- All of the these listed items (x)

Which statement is true? 345

- The Administrator may, consistent with international standards, authorize an airman to operate a civil foreign-registered small unmanned aircraft without an FAA-issued remote pilot certificate with a small UAS rating. (x)
- The Administrator restricts, even if consistent with international standards, to authorize an airman to operate a civil foreign-registered small unmanned aircraft without an FAA-issued remote pilot certificate with a small UAS rating.

See § 107.12 Requirement for a remote pilot certificate with a small UAS rating.

https://www.ecfr.gov/current/title-14/chapter-I/subchapter-F/part-107

Which statement is true? 346

- No person may operate a civil small unmanned aircraft system unless it is in a condition for safe operation. Prior to each flight, the remote pilot in command must check the small unmanned aircraft system to determine whether it is in a condition for safe operation. (x)
- A person may continue flight of the small unmanned aircraft when he or she knows or has reason to know that the small unmanned aircraft system needs attention to assure safe operation.

Regarding In-Flight Emergencies, which is best choice? (Select all that apply) 347

- In an in-flight emergency requiring immediate action, the remote pilot in command may deviate from any rule of this part to the extent necessary to meet that emergency. (x)
- Each remote pilot in command who deviates from a rule under § 107 needs to immediately, within 5 days, file a DroneZone report with the FAA
- Each remote pilot in command who deviates from a rule under paragraph (a) of this section must, upon request of the Administrator, send a written report of that deviation to the Administrator. (x)

See § 107.21 In-flight emergency.

§107.29 Operation at night does not indicate 348

- Flights are allowed during twilight times
- A UAS may fly at night given certain requirements are met
- Flying a UAS is prohibited except for provisions that apply only to stipulated twilight times (x)
- The small unmanned aircraft has lighted anti-collision lighting visible for at least 3 statute miles

This section of Part 107 has been recently updated and if you are Part 107 certified, then seek out further information and the process for compliance to be able to fly in the dark.

§107.31 Visual line of sight aircraft operation does not state: 349

- Know the unmanned aircraft's location
- Determine the unmanned aircraft's attitude, altitude, and direction of flight
- Acceptable to simply keep watch of the screen display on the control station in place of keeping a watch by eye (x)
- Observe the airspace for other air traffic or hazards
- Determine that the unmanned aircraft does not endanger the life or property of another

§107.37 Operation near aircraft; right-of-way rules indicate (Select all that apply): 350

- Each small unmanned aircraft must yield the right of way to all aircraft, airborne vehicles, and launch and reentry vehicles. (x)
- Yielding the right of way means that the small unmanned aircraft must give way to the aircraft or vehicle and may not pass over, under, or ahead of it unless well clear. (x)
- No person may operate a small unmanned aircraft so close to another aircraft as to create a collision hazard. (x)

§107.39 Operation over human beings.

No person may operate a small unmanned aircraft over a human being unless (Select all that apply):

- That human being is directly participating in the operation of the small unmanned aircraft (x)
- That human being is located under a covered structure or inside a stationary vehicle that can provide reasonable protection from a falling small unmanned aircraft (x)
- The operation meets the requirements of at least one of the operational categories specified in subpart D of this part. (x)

For your info … here is the listing for:

14 CFR Subpart D - **Operations Over Human Beings**

§ 107.100 Applicability.
§ 107.105 Limitations on operations over human beings.
§ 107.110 Category 1 operations.
§ 107.115 Category 2 operations: Operating requirements.
§ 107.120 Category 2 operations: Eligibility of small unmanned aircraft and other applicant requirements.
§ 107.125 Category 3 operations: Operating requirements.
§ 107.130 Category 3 operations: Eligibility of small unmanned aircraft and other applicant requirements.
§ 107.135 Labeling by remote pilot in command for Category 2 and 3 operations.
§ 107.140 Category 4 operations.
§ 107.145 Operations over moving vehicles.
§ 107.150 Variable mode and variable configuration of small unmanned aircraft systems.
§ 107.155 Means of compliance.
§ 107.160 Declaration of compliance.
§ 107.165 Record retention.

Prior to flight, the remote pilot in command must (Select all that apply): 352

- Local weather conditions (x)
- Local airspace and any flight restrictions (x)
- The location of persons and property on the surface (x)
- Other ground hazards (x)

This is the wording from "§ 107.49 Preflight familiarization, inspection, and actions for aircraft operation." Some trainings fail to mention every point covered in this section of Part 107, so this is just to make for a good review of this subsection!

Prior to flight, the remote pilot in command need not: 353

- Ensure that all control links between ground control station and the small unmanned aircraft are working properly
- If the small unmanned aircraft is powered, ensure that there is enough available power for the small unmanned aircraft system to operate for the intended operational time
- Ensure that all manufacturer pre-flight check list items are followed exactly as prescribed in the sUAS user manual (x)
- Ensure that any object attached or carried by the small unmanned aircraft is secure and does not adversely affect the flight characteristics or controllability of the aircraft

Remember, not all manufacturers supply a pre-flight checklist. Item for this correct answer is not listed in '§107.49 Preflight familiarization, inspection, and actions for aircraft operation,' however, Part 107 training often urges the PIC to develop their own checklist especially if the manufacturer does not provide one!

§107.52 ATC transponder equipment … states what? 354

- A transponder is considered a favorable option for the operation of a small unmanned aircraft system under this part
- Unless otherwise authorized by the Administrator, no person may operate a small unmanned aircraft system under this part with a transponder on. (x)
- Transponders may be obtained for a UAS directly from the manufacturer

See Subpart C - Remote Pilot Certification

https://www.ecfr.gov/current/title-14/chapter-I/subchapter-F/part-107

However, for clarity, in the near future 'remote IDs' will need to be built in or added to a UAS (so note the definition of **transponder**: a device for receiving a radio signal and automatically transmitting a different signal)

A temporary remote pilot certificate with a small UAS rating expires (Select all that apply): 355

- On the expiration date shown on the certificate (x)
- Upon receipt of the permanent certificate (x)
- Upon receipt of a notice that the certificate sought is denied or revoked (x)

As noted in §107.64 Temporary certificate (also states):

A temporary remote pilot certificate with a small UAS rating is issued for up to 120 calendar days, at which time a permanent certificate will be issued to a person whom the Administrator finds qualified under this part.

An applicant for a knowledge test must have proper identification at the time of application that contains the applicant's: 356

- Photograph; Date of birth; Permanent mailing address
- Photograph; Signature; Date of birth; Permanent mailing address (x)
- Photograph; Signature; Permanent mailing address
- Photograph; Signature; Date of birth; Temporary mailing address

§107.67 Knowledge tests: General procedures and passing grades.

§107.140 Category 4 operations. This section includes: "Retain the records required under paragraphs (c)(2) and (3) of this section, as follows:" (Select all that apply) 357

- The records documenting maintenance, preventive maintenance, or alterations performed must be retained for 1 year from when the work is completed or until the maintenance is repeated or superseded by other work. (x)
- The records documenting purchase dates of maintenance parts and optional features to be added to the UAS
- The records documenting the status of life-limited parts, compliance with airworthiness directives, and inspection status of the small unmanned aircraft must be retained and transferred with the aircraft upon change in ownership (x)

§107.145 Operations over moving vehicles. 358

No person may operate a small unmanned aircraft over a human being located inside a moving vehicle unless the following conditions are met (which of the following applies Category 4 small unmanned aircraft):

- Must have an airworthiness certificate issued under part 21 of this chapter. Be operated in accordance with the operating limitations specified in the approved Flight Manual or as otherwise specified by the Administrator. (x)
- Category 4 does not provide conditions allowing flight over moving vehicles.

§107.35 Operation of multiple small unmanned aircraft, includes: 359

- A person may manipulate flight controls as a certified remote pilot in command in the operation of more than one unmanned aircraft at the same time.
- A person may not manipulate flight controls or act as a remote pilot in command or visual observer in the operation of more than one unmanned aircraft at the same time. (x)

NOTE: We see on television, social media or elsewhere that multiple drones are sometimes flown all at once from one command center. The question above is covering a section 107.35 that also falls under ...

§ 107.205 List of regulations subject to waiver.

A certificate of waiver issued pursuant to § 107.200 may authorize a deviation from the following regulations of this part … including 107.35

What does the longest hand on the altimeter represent (the one pointing straight down)?

360

- 100s of feet (x)
- 1000s of feet
- 10,000s of feet

NOTE: There may be a test question on how to read the altimeter. But none has shown up on test questions thus far found for this set of flashcards, but also the FAA supplement document does not define how to read such a meter!

The **long** needle is for **100 feet**, with tick marks for each **20** feet between the 100s, the **next shorter** and **fat** needle is for **1,000s of feet**; the **smallest** and shortest needle inside the inner circle is for **10,000s of feet**.

END of Study Question Flashcards 361

If you have worked your way through he entire series of questions, you can reset the flashcards to the original status.

More flashcards can e added at any time … simply use “Write” mode in Flashcard Hero … and refer to “Help>User Guide and Videos” for further help and instructions