COMMERCIAL PILOT QUESTIONS AND EXPLANATIONS

You will want to know that the FAA is making a concerted effort to update and reword every question in their databank. For this reason, questions in our courses will no longer exactly match any of the questions the FAA is asking on the knowledge tests. The good news is that our courses are designed to help you understand principles and concepts the FAA wants you to know and use as a pilot. We know that if you understand the underlying concept, you should be able to answer any question about the subject. Please ensure that you thoroughly understand the questions below. They are not currently covered in your course but may appear on your test.

**NOTE:** These questions are similar to and representative of questions the FAA is asking on the knowledge test. The numerical values and locations the FAA is using may be different than the questions in our databank, but the concept and principles will remain the same.

**NOTE:** The FAA has changed the name of the Airport/Facility Directory (A/FD) to Chart Supplement. Although you may still see either term used in questions and figures the content will be the same.

**SECTIONAL CHARTS**

**6138 PLT101**
(Refer to figure 53, point 1) The highest terrain elevation in the vicinity of the Grupe (PVT) airport is

A. 4,540 feet MSL.
B. 9,400 feet MSL.
C. 2,259 feet MSL.

**6138 (Ans. B)**

The blue numerals (9,) 6 miles southeast of Grupe indicate the MEF (maximum elevation figure), or the highest terrain (including vertical obstacles in hundreds of feet MSL) within the quadrangle surrounding Grupe.

Answers A and C are incorrect because 4,540 feet MSL, the elevation of the lookout tower 9 miles east-southeast, and 2,259 feet MSL, the elevation of the hill 5 miles southeast of Grupe, are not the highest terrain or obstruction in that vicinity since the chart excerpt does not show the entire quadrangle.
AIRSPACE & WEATHER MINIMUMS

5575 PLT040
(Refer to figure 52, point 9) The alert area depicted within the blue lines is an area in which

(Note: Alert areas are now depicted with magenta lines and the FAA figure of the sectional chart excerpt is expected to be updated soon.)

A. there is a high volume of pilot training activities or an unusual type of aerial activity, neither of which is hazardous to aircraft.
B. the flight of aircraft is prohibited.
C. the flight of aircraft, while not prohibited, is subject to restriction.

5575 (Ans. A)

The area indicated is an Alert Area within which there is a high volume of pilot training or an unusual type of aerial activity, neither of which is hazardous to aircraft (flown by alert pilots!). (Note: Alert areas are now depicted with magenta lines and the FAA figure of the sectional chart excerpt is expected to be updated soon.)

Answers B and C are incorrect because flight within an Alert Area is neither prohibited nor subject to restriction.

6139 PLT161
(Refer to figure 53, area 3) What is the floor of controlled airspace over the Firebaugh (Q49) airport?

A. 1,200' AGL.
B. 700' AGL.
C. 1,600' AGL.

6139 (Ans. B)

Firebaugh airport is not inside a dashed magenta line that would indicate surface area Class E but it is inside within the fuzzy side of a magenta vignette indicating the floor of the Class E controlled airspace is 700 feet AGL.

Answer A is incorrect because the magenta vignette fuzzy side indicates the lower 700 feet AGL floor takes precedence over the 1,200 foot floor on the other side. Answer C is incorrect because 1,600 feet AGL doesn’t define the floor of the controlled airspace.

RADIO NAVIGATION & FLIGHT INSTRUMENTS

6147 PLT167
When checking the altimeter before flight, what accuracy is it required to have?

A. Within +75/-50 feet of the known field elevation.
B. Within +/- 50 feet of the known field elevation.
C. Within +/- 75 feet of the known field elevation.

6147 (Ans. C)

The altimeter should be checked by setting the current reported altimeter setting in the altimeter and noting the variation between the known field elevation and the altimeter indication. If this variation is more than plus or minus 75 feet, the accuracy of the altimeter is questionable and the problem should be referred to a repair station. (AIM 7-2-3)

Answer A is incorrect because the allowed variation is plus or minus 75 feet. Answer B is incorrect because the allowed variation is plus or minus 75 feet.
FLIGHT OPERATIONS

6134 PLT205
To rid itself of all the alcohol contained in one mixed drink, the human body requires about

A. 1 hour.
B. 3 hours.
C. 4 hours.

6134 (Ans. B)
Alcohol consumption and flying are hazardous. As little as one ounce of liquor, four ounces of wine, or one bottle of beer can impair your flying skills, and due to the body’s rate of metabolism of alcohol, it is detectable in your breath or blood for at least 3 hours. However, you must always wait at least 8 hours after consuming alcohol before flying.

Answers A and C are incorrect because one alcoholic beverage is detectable for at least 3 hours after consumption.

6142 PLT104
A pilot flying in a fatigued state is a hazard because

A. flying fatigued is flying impaired.
B. the pilot will hurry through checks and neglect items.
C. the pilot will exceed aircraft limitations to complete the flight.

6142 (Ans. A)
Flying fatigued impairs a pilot in many ways including degraded attention, impaired coordination, decreased ability to communicate and can seriously influence the ability to make effective decisions.

Answer B provides a couple of possible errors that can be made when fatigued but is not a comprehensive answer. Answer C is incorrect because while this could happen when fatigued it is not a given result and does not include many other ways the pilot could make a mistake when fatigued.

6143 PLT104
Risk management by the pilot

A. applies only on passenger/cargo IFR flights.
B. requires continuing education and certified academic training to understand the principles.
C. is improved with practice and consistent use of risk management tools.

6143 (Ans. C)
Practice and consistent use of risk management tools develops a habit for pilots that make using the tools smooth, continuous and automatic.

Answer A is incorrect because risk management should be applied on every flight. Answer B is incorrect because certified academic training is not a requirement of the FAA or the ability to learn good risk management practices.

6144 PLT205
A pilot, after drinking a moderate amount of alcohol, may still be under the influence

A. 48 hours later.
B. 8 hours later.
C. 24 hours later.

6144 (Ans. B)
Individuals metabolize alcohol at different rates based on their body mass, age and other factors, so even if you observe the eight hour rule after drinking a moderate amount of alcohol, your blood-alcohol content may exceed the 0.04% limit.

Answers A and C are incorrect and not the point of this question. The concern is making sure you have processed the alcohol sufficiently before flying again.
WEATHER

6127 PLT492
What is the standard temperature at 6,500 feet?

A. 15 °C.
B. 2 °C
C. 38 °F

6127 (Ans. B)
The standard sea level temperature is +15 °C. The average lapse rate in the troposphere is -2 °C per 1,000 feet. Therefore the standard temperature at 6,500 feet MSL is:
+15 °C + (-2 °C x 6.5) = +15 °C - 13 °C = +2 °C.
Answer A is incorrect because 15 °C is the standard temperature at sea level. Answer C is incorrect because the standard temperature at 6,500 feet is 2 °C or 35.6 °F not 38 °F.

6140 PLT515
Aviation Area Forecasts (FAs) for the contiguous U.S. are used in conjunction with inflight aviation weather advisories to interpolate

A. temperatures and winds at altitude.
B. conditions at airports for which not TAFs are issued.
C. radar echo precipitation types and intensity levels.

6140 (Ans. B)
Area Forecasts (FAs) are used in conjunction with AIRMETs, SIGMETs Convective SIGMETs and other inflight weather advisories to determine conditions at airports that do not have a Terminal Aerodrome Forecast (TAF).
Answers A and C are incorrect because temperatures/wind information at altitude and radar echo precipitation types/intensity are not given in an Area Forecast. They are available through other weather information products.

FEDERAL AVIATION REGULATIONS

6106 PLT508
What record shall be made in the aircraft log or other permanent record by the pilot making the VOR operational check?

A. The date, place, bearing error, and signature.
B. The date, frequency of VOR or VOT, number of flight hours since last check, and signature.
C. The date, place, satisfactory or unsatisfactory, and signature.

6106 (Ans. A)
The place of operational check, the amount of bearing error, the date of the check, and the pilot's signature must be recorded in the aircraft log or other permanent record by a pilot making a VOR operational check prior to IFR operations. Each VOR receiver check is good for 30 days only. FAR 91.171.
Answer B is incorrect because the frequency of the VOR or VOT and the number of flight hours since the last check are not required. Answer C is incorrect because satisfactory or unsatisfactory does not need to be recorded but bearing error must be recorded. The bearing error is used to determine if a VOR receiver check is satisfactory or unsatisfactory.

6141 PLT386
What regulations are in the terms and conditions of a Standard Airworthiness Certificate?

A. Parts 21, 31, 43, and 91.
B. Parts 21, 61, and 91.
C. Parts 21, 43, and 91.

6141 (Ans. C)
Block 6 (Terms and Conditions) of the Standard Airworthiness certificates stipulates that the certificate remains in effect as long as the aircraft is maintained in accordance with Parts 21, 43, and 91 of the Code of Federal Regulations.
Answers A and B are incorrect because Parts 31 and 61 are not referenced in the terms and conditions of the airworthiness certificate.
CROSS-COUNTRY PLANNING
6136 PLT012
If an aircraft is consuming 9.3 gallons per hour at a cruising altitude of 6,000 feet and the groundspeed is 135 knots, how much fuel is required to travel 390 NM?

A. 27 gallons.
B. 30 gallons.
C. 35 gallons.

WEIGHT AND BALANCE
6135 PLT021
GIVEN:

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<th>MOMENT</th>
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<tr>
<td>TOTALS</td>
<td>1,282</td>
<td>-59.93</td>
<td>?</td>
</tr>
</tbody>
</table>

The CG is located at station

A. -6.43.
B. +16.43.
C. +27.38.

6136 ANS. A
TIME:
390 NM at 135 knots = 2 hrs. 54 min.
FUEL:
2 hrs. 54 min. at 9.3 gal/hr. = 26.8 gallons.

Answers B and C are incorrect but could be obtained through miscalculation.

6135 ANS. B
ITEM WEIGHT X ARM = MOMENT
Empty Weight 957 29.07 27,819.99
Plt fwd seat 140 -45.30 -6,342.00
Pax aft seat 170 1.60 272.00
Ballast 15 -45.30 -679.50
TOTALS 1,282 -59.93 21,070.49

CG=Total Moment/Total Weight
CG= 21,070.49/1,282 = 16.43

Answers A and C are incorrect but may be obtained by miscalculation.
HELICOPTER
The FAA is now asking questions from the Aerodynamics lab of fixed-wing portion of the course in the following areas:
Basic Aerodynamics
Turns
Load Factor

5721 PLT348
A pilot is hovering during calm wind conditions. The greatest amount of engine power will be required when
A. ground effect exists.
B. making a left-pedal turn.
C. making a right-pedal turn.

5721 (Ans. B)

Of the given flight operations, a left-pedal turn while hovering during a calm wind will require the most power. The RPM will decrease, if throttle is not added, because more engine power is absorbed by the tail rotor.

Answer A is incorrect because less power is required for hovering in ground effect than out of ground effect. Answer C is incorrect because a right-pedal turn requires less power than a left-pedal turn.

6092 PLT004
(Refer to figure 44.)
GIVEN:
Ambient temperature 60 °F
Pressure altitude 2,000 feet
What is the rate of climb?
A. 705 ft/min.
B. 630 ft/min.
C. 755 ft/min.

6092 (Ans. A)

On figure 44, find the diagonal outside (ambient) temperature line marked 60 °F. Move down this line until it intercepts the horizontal line of 2,000 ft. pressure altitude. From that point, move straight down to find a rate of climb of 705 ft/min.

Answer B is incorrect. 630 ft/min would be the result of using the intersection of the 2,000 foot line with the 80° line. Answer C is incorrect because it would be derived from using the standard temperature line, not the outside (ambient) temperature line.

6093 PLT004
(Refer to figure 44.)
GIVEN:
Ambient temperature 40 °F
Pressure altitude 1,000 feet
What is the rate of climb?
A. 810 ft/min.
B. 830 ft/min.
C. 860 ft/min.

6093 (Ans. C)

On figure 44, find the diagonal outside (ambient) temperature line marked 40 °F. Move down this line until it intercepts the horizontal line of 1,000 ft. pressure altitude. From that point, move straight down to find a rate of climb of 860 ft/min.

Answer A is incorrect but would be derived if using the 60 °F outside (ambient) temperature line instead of 40 °F line. Answer B is incorrect because it would be derived from using the standard temperature line, not the outside (ambient) temperature line.
6114 PLT436
When operating a U.S.-registered civil helicopter, which document is required by regulation to be available in the aircraft?
A. A manufacturer’s Operations Manual.
C. An Owner’s Manual.

6114 (Ans. B)
A current, approved Rotorcraft Flight Manual is required.
Answers A and C are wrong because they are generic and do not apply to the individual aircraft.

6132 PLT163
Minimum requirements for VFR flight in Class G airspace below 1,200 feet AGL for helicopters in the day time are:
A. 1 mile visibility and clear of clouds.
B. 3 miles visibility and clear of clouds.
C. 1/2 mile visibility and clear of clouds.

6132 (Ans. C)
As of April 20, 2014 the basic VFR minimums for helicopters in Class G airspace operating below 1,200 feet AGL in the day time became 1/2 mile visibility and clear of clouds.
Answer A is incorrect because that is the night time requirement for helicopters operating VFR in Class G airspace below 1,200 feet AGL. Answer B is incorrect because that is the requirement for basic VFR in Class B.

6133 PLT163
Minimum requirements for VFR flight in Class G airspace below 1,200 feet AGL for helicopters at night are:
A. 1 mile visibility and clear of clouds.
B. 3 miles visibility and clear of clouds.
C. 1/2 mile visibility and clear of clouds.

6133 Ans. A)
As of April 20, 2014 the basic VFR minimums for helicopters in Class G airspace operating below 1,200 feet AGL at night became 1 mile visibility and clear of clouds.
Answer B is incorrect because that is the requirement for basic VFR in Class B. Answer C is incorrect because that is the day time requirement for helicopters operating VFR in Class G airspace below 1,200 feet AGL.

6135 PLT021
GIVEN:

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The CG is located at station
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6135 (Ans. B)

\[
\text{CG} = \frac{\text{Total Moment}}{\text{Total Weight}}
\]
\[
\text{CG} = \frac{21,070.49}{1,282} = 16.43
\]
Answers A and C are incorrect but may be obtained by miscalculation.
(Refer to figure 54) Can a commercially operated rotorcraft-helicopter obtain a special VFR clearance to depart or enter the Class B airspace at San Francisco International Airport (SFO)?

A. Yes, as long as the helicopter is equipped with the appropriate equipment.
B. No, SVFR flight is not allowed for any aircraft.
C. Depends on Letter of Agreement between the facility and the operator.

Answer B is incorrect because NO SVFR does not apply to helicopters. Answer C is incorrect because no letter of agreement is necessary for any special VFR operations.

The NO SVFR restriction in selected Class B and Class C airspace only applies to fixed-wing aircraft. Properly equipped helicopters may get a special VFR clearance in these areas (AIM 4-4-6 e).