06/12/2012
Bank: (Sport Pilot Flight and Ground Instructor)
Airman Knowledge Test Question Bank

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The Learning Statement Reference Guide for Airman Knowledge Testing contains listings of learning statements with their associated codes. It can be located at: http://www.faa.gov/training_testing/testing/airmen/media/LearningStatementReferenceGuide.pdf

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1. PLT238 CFI

Aspect ratio of a wing is defined as the ratio of the

A) wingspan to the wing root.

B) wingspan to the mean chord.

C) square of the chord to the wingspan.

2. PLT238 CFI

At a constant velocity in airflow, a high aspect ratio wing will have (in comparison with a low aspect ratio wing)

A) increased drag, especially at a low angle of attack.

B) decreased drag, especially at a high angle of attack.

C) increased drag, especially at a high angle of attack.

3. PLT168 CFI

The angle of attack of a wing directly controls the

A) angle of incidence of the wing.

B) amount of airflow above and below the wing.

C) distribution of positive and negative pressure acting on the wing.

4. PLT245 CFI

What is the effect of center of gravity on the spin characteristics of a fixed-wing aircraft? If the CG is too far

A) aft, a flat spin may develop.

B) forward, spin entry will be difficult.

C) aft, spins can become high-speed spirals.

5. PLT008 CFI

(Refer to figure 31.) What is the total landing distance over a 50-foot obstacle?

Temperature	15 °C
Pressure altitude	4,000 ft
Weight	3,000 lb
Headwind	22 kts

A) 1,250 feet.

B) 1,175 feet.

C) 1,050 feet.

6. PLT074 CFI

(Refer to figure 17.) The airspeed indicated by point A is

A) maneuvering speed.

B) normal stall speed.

C) maximum structural cruising speed.

7. PLT215 CFI

What should be the indication on the magnetic compass as you roll into a standard rate turn to the right from a south heading in the Northern Hemisphere?

A) The compass will initially indicate a turn to the left.

B) The compass will indicate a turn to the right, but at a faster rate than is actually occurring.

C) The compass will remain on south for a short time, then gradually catch up to the magnetic heading of the airplane.

8. PLT023 CFI

What is true altitude?

A) The vertical distance of the aircraft above sea level.

B) The vertical distance of the aircraft above the surface.

C) The height above the standard datum plane.

9. PLT115 CFI

Detonation occurs in a reciprocating aircraft engine when

A) the spark plugs are fouled or shorted out or the wiring is defective.

B) hot spots in the combustion chamber ignite the fuel/air mixture in advance of normal ignition.

C) the unburned charge in the cylinders explodes instead of burning normally.

10. PLT478 CFI

If the ground wire between the magneto and the ignition switch becomes disconnected, the most noticeable result will be that the engine

A) will run very rough.

B) cannot be started with the switch in the ON position.

C) cannot be shut down by turning the switch to the OFF position.

11. PLT479 CFI

What should be the first action after starting an aircraft engine?

A) Adjust for proper RPM and check for desired indications on the engine gauges.

B) Place the magneto or ignition switch momentarily in the OFF position to check for proper grounding.

C) Test each brake and the parking brake.

12. PLT253 CFI

When the pilot leans the mixture control, what is being accomplished?

A) The volume of air entering the carburetor is being reduced.

B) The volume of air entering the carburetor is being increased.

C) The amount of fuel entering the combustion chamber is being reduced.

13. PLT324 CFI

An abnormally high engine oil temperature indication may be caused by

A) the oil level being too low.

B) operating with a too high viscosity oil.

C) operating with an excessively rich mixture.

14. PLT351 CFI

The reason for variations in geometric pitch (twisting) along a propeller blade is that it

A) prevents the portion of the blade near the hub to stall during cruising flight.

B) permits a relatively constant angle of attack along its length when in cruising flight.

C) permits a relatively constant angle of incidence along its length when in cruising flight.

15. PLT141 CFI

What does a destination sign identify?

A) Entrance to the runway from a taxiway.

B) Direction to takeoff runways.

C) Runway on which an aircraft is located.

16. PLT141 CFI

What is the purpose of the runway hold position sign?

A) Denotes entrance to a runway from a taxiway.

B) Denotes area protected for an aircraft approaching or departing a runway.

C) Denotes taxiway location.

17. PLT146 CFI

(Refer to figure 54.) The segmented circle indicates that the airport traffic pattern is

A) left-hand for Rwy 17 and right-hand for Rwy 35.

B) right-hand for Rwy 35 and right-hand for Rwy 9.

C) left-hand for Rwy 35 and right-hand for Rwy 17.

18. PLT150 CFI

The recommended entry position to an airport traffic pattern is

A) 45° to the base leg just below traffic pattern altitude.

B) to enter 45° at the midpoint of the downwind leg at traffic pattern altitude.

C) to cross directly over the airport at traffic pattern altitude and join the downwind leg.

19. PLT509 CFI

During a takeoff made behind a departing large jet airplane, the pilot can minimize the hazard of wingtip vortices by

A) remaining below the jet's flightpath until able to turn clear of its wake.

B) extending the takeoff roll and not rotating until well beyond the jet's rotation point.

C) being airborne prior to reaching the jet's flightpath until able to turn clear of its wake.

20. PLT040 CFI

(Refer to figure 47.) Which altitude (box 1) is applicable to the vertical extent of the surface and shelf areas of this Class C airspace?

A) 3,000 feet AGL.

B) 3,000 feet above airport.

C) 4,000 feet above airport.

21. PLT161 CFI

Normally, the vertical limits of Class D airspace extend up to and including how many feet above the surface?

A) 2,500 feet.

B) 3,000 feet.

C) 4,000 feet.

22. PLT244 CFI

If poor aircraft controllability is experienced during an emergency go-around with full flaps, the cause is most probably due to

A) excessive airspeed with full flaps extended.

B) the high-power, low-airspeed situation with the airplane trimmed for a full-flap configuration.

C) a reduction in the angle of attack with full flaps to the point where the aircraft control is greatly impaired.

23. PLT219 CFI

Two distinct flight situations should be covered when teaching slow flight. These are the establishment and maintenance of

A) airspeeds appropriate for landing approaches, and flight at reduced airspeeds.

B) an airspeed which gives a stall warning indication, and an airspeed at which complete recovery can be made from stalls.

C) an airspeed at which the airplane is operating on the back side of the power curve, and an airspeed at which the elevator control can be held full-back with no further loss of control.

24. PLT486 CFI

When explaining the techniques used for making short- and soft-field takeoffs, it would be correct to state that

A) during soft-field takeoffs, lift-off should be made as soon as possible.

B) during soft-field takeoffs, lift-off should be made only when best angle-of-climb speed is attained.

C) during short-field takeoffs, lift-off should be attempted only after best rate-of-climb speed is attained.

25. PLT232 CFI

All experienced pilots have fallen prey to, or have been tempted by, one or more of these dangerous tendencies or behavior problems at some time in their career. Select the answer that best describes these tendencies.

A) Deficiencies in instrument skills and knowledge of aircraft systems or limitations.

B) Peer pressure, loss of situational awareness, and operating with inadequate fuel reserves.

C) Performance deficiencies due to stress from human factors, such as fatigue, illness, or emotional problems.

26. PLT022 CFI

Risk management, as part of the aeronautical decision making (ADM) process, relies on which features to reduce the risks associated with each flight?

A) Application of stress management and risk element procedures.

B) Situational awareness, problem recognition, and good judgment.

C) The mental process of analyzing all information in a particular situation and making a timely decision on what action to take.

27. PLT194 CFI

Which technique should a student be taught to scan for traffic to the right and left during straight-and-level flight?

A) Continuous sweeping of the windshield from right to left.

B) Concentrate on relative movement detected in the peripheral vision area.

C) Systematically focus on different segments of the sky for short intervals.

28. PLT211 CFI

Practical tests for pilot certification are

A) norm-referenced.

B) criterion-referenced.

C) evaluation-referenced.

29. PLT482 CFI

Which would more likely result in students becoming frustrated?

A) Giving the students meaningless praise.

B) Telling students their work is unsatisfactory with no explanation.

C) An instructor freely admitting mistakes causing lack of trust.

30. PLT012 CFI

On a cross-country flight, point A is crossed at 1500 hours and the plan is to reach point B at 1530 hours. Use the following information to determine the indicated airspeed required to reach point B on schedule.

Distance between A and B	70 NM
Forecast wind	310° at 15 kts
Pressure altitude	8,000 ft
Ambient temperature	-10 °C
True course	270°

The required indicated airspeed would be approximately

A) 126 knots.

B) 137 knots.

C) 152 knots.

31. PLT012 CFI

(Refer to figure 40.) The line from point A to point B of the wind triangle represents

A) true heading and airspeed.

B) true course and groundspeed.

C) groundspeed and true heading.

32. PLT012 CFI

If a true heading of 135° results in a ground track of 130° and a true airspeed of 135 knots results in a groundspeed of 140 knots, the wind would be from

A) 019° and 12 knots.

B) 200° and 13 knots.

C) 246° and 13 knots.

33. PLT078 CFI

Information concerning parachute jumping sites may be found in the

A) NOTAM's.

B) Airport/Facility Directory.

C) Graphic Notices and Supplemental Data.

34. PLT113 CFI

If the certification category of an airplane is listed as 'utility,' it means the airplane is intended for which maneuvers?

A) Any type of acrobatic maneuver.

B) All nonacrobatic maneuvers plus limited acrobatics including spins.

C) Any maneuver incident to normal flying except acrobatics or spins.

35. PLT395 CFI

Which is a definition of the term 'crewmember'?

A) A person assigned to perform duty in an aircraft during flight time.

B) Any person assigned to duty in an aircraft during flight except a pilot or flight engineer.

C) Only a pilot, flight engineer, or flight navigator assigned to duty in an aircraft during flight time.

36. PLT432 CFI

Regulations concerning the operational control of a flight refer to

A) the specific duties of any required crewmember.

B) exercising the privileges of pilot in command of an aircraft.

C) exercising authority over initiating, conducting, or terminating a flight.

37. PLT484 CFI

Which is the correct symbol for the minimum steady flight speed at which an airplane is controllable?

A) Vs.

B) Vs1.

C) Vso.

38. PLT418 CFI

An applicant has failed a knowledge test for the second time. With training and an endorsement from an authorized instructor, when may the applicant apply for a retest?

A) immediately.

B) After 5 days.

C) After 30 days.

39. PLT448 CFI

What action may be taken against a person whom the Administrator finds has cheated on a knowledge test?

A) Any certificate or rating held by the person may be suspended or revoked.

B) That person will be required to wait 24 months before taking another knowledge test.

C) That person may be required to wait a maximum of 6 months before applying for any other certificate or rating.

40. PLT508 CFI

If an ATC transponder installed in an aircraft has not been tested, inspected, and found to comply with regulations within a specified period, what is the limitation on its use?

A) Its use is not permitted.

B) It may be used anywhere except in Class A and B airspace.

C) It may be used for VFR flight but not for IFR flight.

41. PLT372 CFI

An aircraft's last annual inspection was performed on July 12, this year. The next annual inspection will be due no later than

A) July 13, next year.

B) July 31, next year.

C) 12 calendar months after the date shown on the Airworthiness Certificate.

42. PLT052 CFI

What is the correct departure procedure at a noncontrolled airport?

A) The FAA-approved departure procedure for that airport.

B) Make all left turns, except a 45° right turn on the first crosswind leg.

C) Departure in any direction consistent with safety, after crossing the airport boundary.

43. PLT208 CFI

How long may an aircraft be operated after the emergency locator transmitter has been initially removed for maintenance?

A) 90 days.
B) 30 days.
C) 7 days.

44. PLT430 CFI
What is the minimum altitude and flight visibility required for acrobatic flight?
A) 1,500 feet AGL and 5 miles.
B) 1,500 feet AGL and 3 miles.
C) 3,000 feet AGL and 3 miles.

45. PLT068 CFI
(Refer to figure 14.) How are Significant Weather Prognostic Charts best used by a pilot?
A) For overall planning at all altitudes.
B) For determining areas to avoid (freezing levels and turbulence).
C) For analyzing current frontal activity and cloud coverage.

46. PLT072 CFI
Vertical visibility is shown on Terminal Aerodrome Forecasts (TAF) reports when the sky is
A) overcast.
B) obscured.
C) partially obscured.

47. PLT063 CFI
When viewing a radar summary chart, an echo top entered as 250 [underlined] means the maximum echo top is approximately
A) 2,500 feet AGL.
B) 25,000 feet AGL.
C) 25,000 feet MSL.

48. PLT286 CFI
Which weather chart depicts the conditions forecast to exist at a specific time in the future?
A) Prognostic.
B) Surface Analysis.
C) Weather Depiction.

49. PLT071 CFI
The position of fronts and pressure systems (as of chart time) is best determined by referring to a
A) Surface Analysis Chart.
B) Radar Summary Chart.
C) Weather Depiction Chart.

50. PLT495 CFI
What are the minimum requirements for the formation of a thunderstorm?
A) Sufficient moisture and a lifting action.
B) Sufficient moisture, an unstable lapse rate, and lifting action.
C) Towering cumulus clouds, sufficient moisture, and a frontal zone.

51. PLT511 CFI
What type weather is associated with an advancing warm front that has moist, unstable air?

A) Stratiform clouds, lightning, steady precipitation.

B) Cumuliform clouds, smooth air, steady precipitation.

C) Cumuliform clouds, turbulent air, showery-type precipitation.

52. PLT510 CFI

Which statement is true regarding high- or low-pressure systems?

A) A high-pressure area or ridge is an area of rising air.

B) A low-pressure area or trough is an area of rising air.

C) A high-pressure area is a trough of descending air.

53. PLT206 CFI

An aircraft is flying at a constant power setting and constant indicated altitude. If the outside air temperature (OAT) decreases, true airspeed will

A) decrease, and true altitude will decrease.

B) increase, and true altitude will increase.

C) increase, and true altitude will decrease.

54. PLT203 CFI

The average lapse rate in the troposphere is

A) 2.0° C per 1,000 feet.

B) 3.0° C per 1,000 feet.

C) 5.4° C per 1,000 feet.

55. PLT021 CFI

(Refer to figure 32.) How should the 500-pound weight be shifted to balance the plank on the fulcrum?

A) 10 inches to the left.

B) 10 inches to the right.

C) 30 inches to the right.

56. PLT253 CFI

What effect, if any, does ambient temperature have on propane tank pressure?

A) It has no effect.

B) As temperature decreases, propane tank pressure decreases.

C) As temperature decreases, propane tank pressure increases.

57. PLT473 CFI

One characteristic of nylon rope is that it

A) is flexible.

B) does not stretch.

C) splinters easily.

58. PLT253 CFI

The purpose of the preheating coil as used in hot air balloons is to

A) prevent ice from forming in the fuel lines.

B) warm the fuel tanks for more efficient fuel flow.

C) vaporize the fuel for more efficient burner operation.

59. PLT253 CFI

The best way to determine burner BTU availability is the

A) burner sound.

B) tank quantity.

C) fuel pressure gauge.

60. PLT253 CFI

Why should methanol be added to propane fuel?

A) Helps detect leaks in the fuel system.

B) Helps prevent moisture from forming in the fuel system.

C) Increases pressure and boiling temperature for operations in colder climates.

61. PLT184 CFI

If you are over a heavily-wooded area with no open fields in the vicinity and have only about 10 minutes of fuel remaining, you should

A) stay low and keep flying in hope that you will find an open field.

B) climb as high as possible to see where the nearest landing field is.

C) land in the trees while you have sufficient fuel for a controlled landing.

62. PLT373 CFI

What should a pilot do if a small hole is seen in the fabric of a balloon during inflation?

A) Continue the inflation and make a mental note of the location of the hole for later repair.

B) Instruct a ground crew member to inspect the hole and, if under 5 inches in length, continue the inflation.

C) Consult the flight manual to determine if the hole is within acceptable damage limits established for the balloon being flown.

63. PLT448 CFI

A student pilot may not operate a balloon in initial solo flight unless that pilot has

A) received a minimum of 5 hours flight instruction in a balloon.

B) a valid Student Pilot Certificate and logbook endorsement by an authorized flight instructor.

C) made at least 10 balloon flights under the supervision of an authorized flight instructor.

64. PLT470 CFI

Rotor blade flapping action is

A) an undesirable reaction to changes in airspeed and blade angle of attack.

B) an aerodynamic reaction to high speed flight and cannot be controlled by the pilot.

C) a design feature permitting continual changes in the rotor blade angle of attack, compensating for dissymmetry of lift.

65. PLT304 CFI

During a ground launch, how is the airspeed of a glider increased?

A) Raise the nose.

B) Lower the nose.

C) Increase speed of vehicle or winch.

66. PLT257 CFI

When flying into a strong headwind on a long glide back to the airport, the recommended speed to use is the

A) best glide speed.

B) minimum sink speed.

C) best lift/drag speed plus half the estimated windspeed at the glider's flight altitude.

67. PLT501 CFI

When soaring in the vicinity of mountain ranges, the greatest potential danger from vertical and rotor-type currents will usually be encountered on the

A) leeward side when flying with the wind.

B) leeward side when flying into the wind.

C) windward side when flying into the wind.

68. PLT249 CFI

Fuel/air ratio is the ratio between the

A) volume of fuel and volume of air entering the cylinder.

B) weight of fuel and weight of air entering the cylinder.

C) weight of fuel and weight of air entering the carburetor.

69. PLT253 CFI

The best power mixture is that fuel/air ratio at which

A) cylinder head temperatures are the coolest.

B) the most power can be obtained for any given throttle setting.

C) a given power can be obtained with the highest manifold pressure or throttle setting.

70. PLT478 CFI

Fouling of spark plugs is more apt to occur if the aircraft

A) gains altitude with no mixture adjustment.

B) descends from altitude with no mixture adjustment.

C) throttle is advanced very abruptly.

71. PLT249 CFI

The pilot controls the air/fuel ratio with the

A) throttle.

B) manifold pressure.

C) mixture control.

72. PLT121 CFI

What constitutes the payload of a balloon?

A) Total gross weight.

B) Total weight of passengers, cargo, and fuel.

C) Weight of the aircraft and equipment.

73. PLT125 CFI

During flight, advancing thrust will

A) increase airspeed.

B) cause the aircraft to climb.

C) cause the aircraft to increase airspeed and climb.

74. PLT253 CFI

A standby source of fuel to an engine in a powered parachute is typically

A) from an electrically powered pump.

B) through gravity feed.

C) from a pressurized fuel tank.

75. PLT190 CFI

Carburetor ice

A) occurs mostly as a function of temperature.

B) can only form when the outside air temperature is near freezing with high relative humidity.

C) is more likely to form when outside air temperatures are below 70 degrees F and relative humidity is above 80%.

76. PLT343 CFI

Air cooled engines dissipate heat

A) through cooling fins on the cylinder and head.

B) by air flowing through the radiator fins.

C) through the cylinder head temperature probe.

77. PLT342 CFI

Coolant in a liquid cooled engine is normally circulated by

A) capillary attraction.

B) an electric pump.

C) an engine driven pump.

78. PLT278 CFI

High EGT on a 2-cycle engine could be caused by

A) high oil temperature and low oil pressure.

B) pre-ignition, detonation or a air intake leak.

C) improper engine operation.

79. PLT343 CFI

2-cycle engine thrust and fuel efficiency can be greatly compromised when

A) exhaust systems are installed that are not specifically tuned for an engine.

B) carbon deposits build up on exhaust valves.

C) intake valve lifters fail to pressurize and provide adequate fuel to the combustion chamber.

80. PLT324 CFI

Many 4-cycle engines utilize what type of lubrication system?

A) Forced.

B) Gravity.

C) Fuel/oil mixture.

81. PLT251 CFI

Adding more oil to the fuel than specified by the manufacturer of a 2-cycle engine will result in

A) increased engine performance.

B) increased carbon buildup and engine fouling.

C) increased engine lubrication and optimal performance.

82. PLT114 CFI

The center of gravity tube is

A) lengthened for heavier pilots.

B) shortened for lighter pilots.

C) lengthened for lighter pilots.

83. PLT253 CFI

During preflight, the fuel vent system should always be checked

A) to ensure the vent is closed.

B) to ensure the vent is open.

C) to ensure the vent system pressure is in the green range.

84. PLT258 CFI

(Refer to figure 49.) The angle of bank will be most nearly equal in which positions?

A) 3 and 7.

B) 1 and 5.

C) 4 and 6.

85. PLT114 CFI

The crosstube is positioned by

A) a quick release pin.

B) self-locking bolts.

C) restraining cables attached to the rear of the keel.

86. PLT114 CFI

The keel pocket`s purpose is to

A) act as a longitudinal stabilizer, keeping the wing from wandering left and right.

B) act as a roll stabilizer, keeping the wing from wandering left and right.

C) act as a yaw stabilizer, keeping the wing from wandering left and right.

87. PLT470 CFI

Gyroplanes that use small wings will cause rotor drag to do what at higher cruise airspeeds?

A) Increase.

B) Decrease.

C) Remain the same.

88. PLT470 CFI

Rotor torque is a concern in gyroplanes only during

A) prerotation or clutch engagement.

B) maneuvers requiring high rotor rpm.

C) maximum performance climbs and go-arounds requiring higher engine rpm.

89. PLT149 CFI

Which is true concerning taxi procedures in a gyroplane?

A) In ideal conditions, taxi speed should be limited to no faster than a brisk walk.

B) Cyclic stick should be positioned slightly aft of neutral when taxiing.

C) Rotor blades should not be turning when taxiing over a rough surface.

90. PLT222 CFI

In order to maintain level flight (laterally) as airspeed increases on climbout after takeoff in a gyroplane, the pilot will need to increase

A) rudder pressure to the left.

B) cyclic pressure to the right.

C) rudder and cyclic pressure to the left.

91. PLT344 CFI

You may anticipate fog when the temperature-dew point spread is

A) 15 °F or less and decreasing.

B) 15 °F or more and increasing.

C) 5 °F or less and decreasing