The FAA computer-assisted testing system is supported by a series of supplement publications. These publications, available through several aviation publishers, include the graphics, legends, and maps that are needed to successfully respond to certain test items. Use the following URL to download a complete list of associated supplement books: [http://www.faa.gov/pilots/testing/supplements/](http://www.faa.gov/pilots/testing/supplements/)

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/media/LearningStatementReferenceGuide.pdf](http://www.faa.gov/training_testing/testing/media/LearningStatementReferenceGuide.pdf)

1. **PLT131**
   What is ground effect?
   A) The result of the interference of the surface of the Earth with the airflow patterns about an aircraft.
   B) The result of an alteration in airflow patterns increasing induced drag about the wings of an aircraft.
   C) The result of the disruption of the airflow patterns about the wings of an aircraft to the point where the wings will no longer support the aircraft in flight.

2. **PLT131**
   An aircraft leaving ground effect during takeoff will
   A) experience a reduction in ground friction and require a slight power reduction.
   B) experience an increase in induced drag and a decrease in performance.
   C) require a lower angle of attack to maintain the same lift coefficient.

3. **PLT241**
   What is the relationship of lift, drag, thrust, and weight when the airplane is in straight-and-level flight?
   A) Lift equals weight and thrust equals drag.
   B) Lift, drag, and weight equal thrust.
   C) Lift and weight equal thrust and drag.

4. **PLT116**
   An ATC clearance means an authorization by ATC for an aircraft to proceed under specified conditions within
   A) controlled airspace.
   B) uncontrolled airspace.
   C) published Visual Flight Rules (VFR) routes.

5. **PLT497**
   When a distress or urgency condition is encountered, the pilot of an aircraft with a coded radar beacon transponder, who desires to alert a ground radar facility, should squawk code
   A) 7700.
6. PLT124 LSP
Which combination of atmospheric conditions will reduce aircraft takeoff and climb performance?
A) Low temperature, low relative humidity, and low density altitude.
B) High temperature, low relative humidity, and low density altitude.
C) High temperature, high relative humidity, and high density altitude.

7. PLT019 LSP
(Refer to figure 8.) Determine the pressure altitude at an airport that is 1,386 feet MSL with an altimeter setting of 29.97.
A) 1,341 feet MSL.
B) 1,451 feet MSL.
C) 1,562 feet MSL.

8. PLT132 LSP
What does the red line on an airspeed indicator represent?
A) Maneuvering speed.
B) Turbulent or rough-air speed.
C) Never-exceed speed.

9. PLT023 LSP
Under what condition is indicated altitude the same as true altitude?
A) If the altimeter has no mechanical error.
B) When at sea level under standard conditions.
C) When at 18,000 feet MSL with the altimeter set at 29.92.

10. PLT023 LSP
What is pressure altitude?
A) The indicated altitude corrected for position and installation error.
B) The altitude indicated when the barometric pressure scale is set to 29.92.
C) The indicated altitude corrected for nonstandard temperature and pressure.

11. PLT253 LSP
To properly purge water from the fuel system of an aircraft equipped with fuel tank sumps and a fuel strainer quick drain, it is necessary to drain fuel from the
A) fuel strainer drain.
B) lowest point in the fuel system.
C) fuel strainer drain and the fuel tank sumps.

12. PLT337 LSP
The pitot system provides impact pressure for which instrument?
A) Altimeter.
B) Vertical-speed indicator.
C) Airspeed indicator.

13. PLT190 LSP
Which condition is most favorable to the development of carburetor icing?
A) Any temperature below freezing and a relative humidity of less than 50 percent.
B) Temperature between 32 and 50 °F and low humidity.
C) Temperature between 20 and 70 °F and high humidity.

14. PLT253 LSP
On aircraft equipped with fuel pumps, when is the auxiliary electric driven pump used?
A) All the time to aid the engine-driven fuel pump.
B) In the event engine-driven fuel pump fails.
C) Constantly except in starting the engine.

15. PLT478 LSP
One purpose of the dual ignition system on an aircraft engine is to provide for
A) improved engine performance.
B) uniform heat distribution.
C) balanced cylinder head pressure.

16. PLT115 LSP
If a pilot suspects that the engine (with a fixed-pitch propeller) is detonating during climb-out after takeoff, the initial corrective action to take would be to
A) lean the mixture.
B) lower the nose slightly to increase airspeed.
C) apply carburetor heat.

17. PLT478 LSP
The uncontrolled firing of the fuel/air charge in advance of normal spark ignition is known as
A) combustion.
B) preignition.
C) detonation.

18. PLT435 LSP
(Refer to figure 21.) What is the recommended communications procedure for departure at Currituck County Airport (area 3)?
A) Broadcast intentions prior to taxi and announcing runway of departure.
B) Calling the Elizabeth City tower on 120.5.
C) Radio need not be used.

19. PLT204 LSP
Inbound to an airport with no tower, FSS, or UNICOM in operation, a pilot should self-announce on MULTICOM frequency
20. PLT204 LSP
Inbound to an airport with no tower, FSS, or UNICOM in operation, a pilot should self-announce on MULTICOM frequency
A) 20 miles out.
B) 10 miles out.
C) 5 miles out.

21. PLT147 LSP
A below glide slope indication from a tri-color VASI is a
A) red light signal.
B) pink light signal.
C) green light signal.

22. PLT064 LSP
(Refer to figure 72, area 4 and legend 1.) For information about the parachute jumping operations at Lincoln Regional/ Harder (LHM) Airport, refer to
A) notes on the border of the chart.
B) the Airport/Facility Directory.
C) the Notices to Airmen (NOTAM) publication.

23. PLT163 LSP
(Refer to figure 27.) In flight and approaching the Bryn (Pvt) Airstrip (area 2) the weather minimums are
A) 1 statute mile visibility.
B) 3 statute miles in all airspace.
C) no visibility, remain clear of clouds.

24. PLT040 LSP
(Refer to figure 76.) The airspace surrounding the Gila Bend AF AUX Airport (GBN) (area 6) is classified as Class
A) B.
B) C.
C) D.

25. PLT194 LSP
An ATC radar facility issues the following advisory to a pilot flying on a heading of 270°: `TRAFFIC 3 O’CLOCK, 2 MILES, EASTBOUND...’ Where should the pilot look for this traffic?
A) North.
B) South.
C) West.

26. PLT064 LSP
The Devils Lake East MOA (area 1) is a
A) meteorological observation area.
B) military observation area.
C) military operations area.

27. PLT170 LSP
A go-around from a poor landing approach should
A) not be attempted unless circumstances make it absolutely necessary.
B) generally be preferable to last minute attempts to prevent a bad landing.
C) not be attempted after the landing flare has been initiated regardless of airspeed.

28. PLT257 LSP
The best speed to use for a glide is one that will result in the greatest glide distance for a given amount of
A) altitude.
B) fuel.
C) drag.

29. PLT219 LSP
Name the four fundamentals involved in maneuvering an aircraft.
A) Power, pitch, bank, and trim.
B) Thrust, lift, turns, and glides.
C) Straight-and-level flight, turns, climbs, and descents.

30. PLT477 LSP
The direct cause of every stall is excessive
A) angle of attack.
B) density altitude.
C) upward vertical velocity.

31. PLT103 LSP
What is the antidote when a pilot has the hazardous attitude of `Invulnerability`?
A) It can not be that bad.
B) It could happen to me.
C) It will not happen to me.

32. PLT099 LSP
The most effective method of scanning for other aircraft for collision avoidance during daylight hours is to use
A) regularly spaced concentration on the 3-, 9-, and 12-o'clock positions.
B) a series of short, regularly spaced eye movements to search each 10-degree sector.
C) peripheral vision by scanning small sectors and utilizing offcenter viewing.
Given the following.
True course 050
True Heading 040
True airspeed 75 kts
Groundspeed 65 kts

Determine the wind direction and speed.
A) 105° and 16 knots.
B) 355° and 16 knots.
C) 355° and 10 knots.

34. PLT012 LSP
(Refer to figure 22.) What is the estimated time en route from Mercer County Regional Airport (area 3) to Minot International (area 1)? The wind is from 330° at 25 knots and the true airspeed is 100 knots. Add 3-1/2 minutes for departure and climb-out.
A) 48 minutes.
B) 44 minutes.
C) 52 minutes.

35. PLT064 LSP
(Refer to figure 25, area 2.) What minimum altitude is necessary to vertically clear the obstacle on the southeast side of Winnsboro Airport by 500 feet?
A) 823 feet MSL.
B) 1,013 feet MSL.
C) 1,403 feet MSL.

36. PLT064 LSP
(Refer to figure 22, area 2.) Which airport is located at approximately 47° 41 minutes 00 seconds N latitude and 101° 36 minutes 00 seconds W longitude?
A) Fischer.
B) Crooked Lake.
C) Johnson.

37. PLT011 LSP
(Refer to figure 26, area 2.) What is the base of Class B airspace at Lakeview (30F) Airport?
A) 3000.
B) 4000.
C) 1700.

38. PLT116 LSP
(Refer to figure 23.) Weather information is available at the Coeur d’Alene (COE) Airport (area 2)
A) at the automated flight service station on the field.
B) from AWOS 3 135.075.
C) from UNICOM (CTAF) on 122.8.

39. PLT371 LSP
With respect to the certification of airmen, which is a category of aircraft?
A) Gyroplane, helicopter, airship, free balloon.
B) Airplane, rotorcraft, glider, lighter-than-air.

40. PLT377 LSP
How long does the Airworthiness Certificate of an aircraft remain valid?
A) As long as the aircraft has a current Registration Certificate.
B) Indefinitely, unless the aircraft suffers major damage.
C) As long as the aircraft is maintained and operated as required by Federal Aviation Regulations.

41. PLT378 LSP
May a pilot operate an aircraft that is not in compliance with an Airworthiness Directive (AD)?
A) Yes, AD’s are only voluntary.
B) Yes, if allowed by the AD.
C) Yes, under VFR conditions only.

42. PLT163 LSP
The minimum flight visibility requirement for a sport pilot is
A) 1 statute mile.
B) 3 statute miles.
C) 5 statute miles.

43. PLT431 LSP
Which is true with respect to formation flights? Formation flights are
A) authorized when carrying passengers for hire, with prior arrangement with the pilot in command of each aircraft in the formation.
B) not authorized, except by arrangement with the pilot in command of each aircraft.
C) not authorized, unless the pilot in command of each aircraft is trained and found competent in formation.

44. PLT414 LSP
Which aircraft has the right-of-way over all other air traffic?
A) A balloon.
B) An aircraft in distress.
C) An aircraft on final approach to land.

45. PLT291 LSP
To best determine general forecast weather conditions over several states (region), the pilot should refer to
A) Aviation Area Forecasts.
C) Satellite Maps.
(Refer to figure 15.) What is the valid period for the TAF for KMEM?
A) 1200Z to 1200Z.
B) 1200Z to 1800Z.
C) 1800Z to 1800Z.

(Refer to figure 17.) What wind is forecast for STL at 9,000 feet?
A) 230° true at 32 knots.
B) 230° true at 25 knots.
C) 230° magnetic at 25 knots.

(Refer to figure 12.) The wind direction and velocity at KJFK is from
A) 180° true at 4 knots.
B) 180° magnetic at 4 knots.
C) 040° true at 18 knots.

What information is provided by the Radar Summary Chart that is not shown on other weather charts?
A) Lines and cells of hazardous thunderstorms.
B) Ceilings and precipitation between reporting stations.
C) Areas of cloud cover and icing levels within the clouds.

A pilot can expect a wind-shear zone in a temperature inversion whenever the windspeed at 2,000 to 4,000 feet above the surface is at least
A) 10 knots.
B) 15 knots.
C) 25 knots.

(Given to figure 68.)
GIVEN:

<table>
<thead>
<tr>
<th>WEIGHT</th>
<th>MOMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gyroplane basic weight</td>
<td>1,315</td>
</tr>
<tr>
<td>Pilot weight</td>
<td>140</td>
</tr>
<tr>
<td>Passenger weight</td>
<td>150</td>
</tr>
<tr>
<td>27 gal fuel</td>
<td>162</td>
</tr>
</tbody>
</table>

The CG is located
A) outside the CG envelope; the maximum gross weight is exceeded.
B) outside the CG envelope; the maximum gross weight and the gross-weight moment are exceeded.
C) within the CG envelope; neither maximum gross weight nor gross-weight moment is exceeded.
How should a balloon fuel system be checked for leaks prior to flight?
A) Listen and smell.
B) Check all connections with a lighted match.
C) Cover all connections and tubing with soapy water.

53. PLT254 LSP
All fuel tanks should be fired during preflight to determine
A) the burner pressure and condition of the valves.
B) that the pilot light functions properly on each tank.
C) if there are any leaks in the tank.

54. PLT251 LSP
If ample propane is available, within which temperature range will propane vaporize sufficiently to provide enough pressure for burner operation during flight?
A) 0 to 30 °F.
B) 10 to 30 °F.
C) 30 to 90 °F.

55. PLT254 LSP
While in flight, frost begins forming on the outside of the fuel tank in use. This would most likely be caused by
A) water in the fuel.
B) a leak in the fuel line.
C) vaporized fuel instead of liquid fuel being drawn from the tank into the main burner.

56. PLT393 LSP
A balloon flight through a restricted area is
A) permitted at certain times, but only with prior permission by the appropriate authority.
B) permitted anytime, but caution should be exercised because of high-speed military aircraft.
C) never permitted.

57. PLT183 LSP
What is a potential hazard when climbing at maximum rate?
A) The envelope may collapse.
B) Deflation ports may be forced open.
C) The rapid flow of air may extinguish the burner and pilot light.

58. PLT219 LSP
It may be possible to make changes in the direction of flight in a hot air balloon by
A) flying a constant atmospheric pressure gradient.
B) operating at different flight altitudes.
C) operating above the friction level, if there is no gradient wind.
What is a hazard of rapid descents?
A) Wind shear can cavitate one side of the envelope, forcing air out of the mouth.
B) The pilot light cannot remain lit with the turbulent air over the basket.
C) Aerodynamic forces may collapse the envelope.

60. PLT130 LSP
In a balloon, best fuel economy in level flight can be accomplished by
A) riding the haze line in a temperature inversion.
B) short blasts of heat at high frequency.
C) long blasts of heat at low frequency.

61. PLT184 LSP
When landing a free balloon, what should the occupants do to minimize landing shock?
A) Be seated on the floor of the basket.
B) Stand with knees slightly bent, in the center of the gondola, facing the direction of movement.
C) Stand back-to-back and hold onto the load ring.

62. PLT041 LSP
(Refer to figure 22, area 1.) A balloon launched at Flying S Airport drifts southward towards the lighted obstacle. If the altimeter was set to the current altimeter setting upon launch, what should it indicate if the balloon is to clear the obstacle at 500 feet above the top?
A) 1,531 feet MSL.
B) 1,809 feet MSL.
C) 3,649 feet MSL.

63. PLT012 LSP
(Refer to figure 23, area 2.) If a balloon is launched at Ranch Aero (Pvt) Airport with a reported wind from 220° at 5 knots, what should be its approximate position after 2 hours of flight?
A) Near Hackney (Pvt) Airport.
B) Crossing the railroad east of Treeport Airport.
C) 3-1/2 miles southwest of Rathdrum.

64. PLT445 LSP
Which preflight action is specifically required of the pilot prior to each flight?
A) Check the aircraft logbooks for appropriate entries.
B) Become familiar with all available information concerning the flight.
C) Review wake turbulence avoidance procedures.

65. PLT017 LSP
(Refer to figure provided.) What approximate lift/drag ratio will the glider attain at 68 MPH in still air?
A) 10.5:1.
B) 21.7:1.
C) 28.5:1.
66. PLT222 LSP
What corrective action should the sailplane pilot take during takeoff if the towplane is still on the ground and the sailplane is airborne and drifting to the left?
A) Crab into the wind by holding upwind (right) rudder pressure.
B) Crab into the wind so as to maintain a position directly behind the towplane.
C) Establish a right wing low drift correction to remain in the flightpath of the towplane.

67. PLT012 LSP
(Refer to figure 27.) If a glider is launched over Barnes County Airport with sufficient altitude to glide to Jamestown Airport (area 4), how long will it take for the flight at an average of 40 MPH groundspeed?
A) 20 minutes.
B) 27 minutes.
C) 48 minutes.

68. PLT012 LSP
(Refer to figure 25, area 1.) A glider is launched over Caddo Mills Airport with sufficient altitude to glide to Airpark East Airport, south of Caddo Mills. How long will it take for the flight at an average of 35 MPH groundspeed?
A) 31 minutes.
B) 27 minutes.
C) 25 minutes.

69. PLT064 LSP
(Refer to figure 27, area 3.) Identify the airspace over Sprague Airport.
A) Class G airspace - surface up to but not including 18,000 feet MSL.
B) Class G airspace - surface up to but not including 700 feet MSL, Class E airspace - 700 feet to 14,500 feet MSL.
C) Class G airspace - surface up to but not including 1,200 feet AGL, Class E airspace - 1,200 feet AGL up to but not including 18,000 feet MSL.

70. PLT161 LSP
Unless otherwise specified, Federal Airways include that Class E airspace extending upward from
A) 700 feet above the surface up to and including 17,999 feet MSL.
B) 1,200 feet above the surface up to and including 17,999 feet MSL.
C) the surface up to and including 18,000 feet MSL.

71. PLT511 LSP
During which period is a sea breeze front usually most suitable for soaring flight?
A) Shortly after sunrise.
B) During the middle of the morning.
C) During the afternoon.

72. PLT120 LSP
Which is considered to be the most hazardous condition when soaring in the vicinity of thunderstorms?
A) Static electricity.
B) Lightning.
C) Wind shear and turbulence.

73. PLT125 LSP
An airship descending through a steep temperature inversion will
A) show no change in superheat as altitude is lost.
B) show a decrease in superheat as altitude is lost.
C) become progressively lighter, thus becoming increasingly more difficult to drive down.

74. PLT012 LSP
(Refer to figure 25.) An airship passes over the Quitman VOR-DME area 2) at 0940 and then over the intersection of the powerline and Victor 114 at 0948. Approximately what time should the flight arrive over the Bonham VORTAC (area 3)?
A) 1109.
B) 1117.
C) 1138.

75. PLT132 LSP
What is the effect of advancing the throttle in flight?
A) Both aircraft groundspeed and angle of attack will increase.
B) Airspeed will remain relatively constant but the aircraft will climb.
C) The aircraft will accelerate, which will cause a turn to the right.

76. PLT222 LSP
Prior to lift off the pilot should verify
A) the wing is fully pressurized.
B) a forward speed of approximately 20 MPH.
C) the propeller RPM is 4500 or greater.

77. PLT125 LSP
Decreasing engine RPM in a powered parachute while in flight, will result in a
A) decrease in airspeed and a descent.
B) descent.
C) descent and an increase in airspeed.

78. PLT346 LSP
The steering bars
A) are used during taxi operations with the parachute stowed.
B) control the outboard trailing edge of the parachute.
C) control the main landing gear brakes.

79. PLT114 LSP
One of the functions of the wing’s crossbar is to
A) hold the wings open.
B) provide surface to grip and control the aircraft.
C) provide an attachment point for the carriage.

80. PLT147 LSP
(Refer to figure 48.) While on final approach to a runway equipped with a standard 2-bar VASI, the lights appear as shown by illustration D. This means that the aircraft is
A) above the glide slope.
B) below the glide slope.
C) on the glide slope.

81. PLT123 LSP
Why should gyroplane operations within the cross-hatched portion of a Height vs. Velocity chart be avoided?
A) The rotor RPM may build excessively high if it is necessary to flare at such low altitudes.
B) Sufficient airspeed may not be available to ensure a safe landing in case of an engine failure.
C) Turbulence near the surface can dephase the blade dampers causing geometric unbalanced conditions on the rotor system.

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83. PLT011 LSP
(Refer to figure 40.) Determine the total takeoff distance required for a gyroplane to clear a 50-foot obstacle if the temperature is 95 °F and the pressure altitude is 1,700 feet.
A) 1,825 feet.
B) 1,910 feet.
C) 2,030 feet.

84. PLT149 LSP
Select the true statement concerning gyroplane taxi procedures.
A) Taxi speed should be limited to no faster than a brisk walk in ideal conditions.
B) The cyclic stick should be held in the neutral position at all times.
C) The cyclic stick should be held slightly aft of neutral at all times.

85. PLT149 LSP
What precaution should be taken while taxiing a gyroplane?
A) The cyclic stick should be held in the neutral position at all times.
B) Avoid abrupt control movements when blades are turning.
C) The cyclic stick should be held slightly aft of neutral at all times.
86. PLT259 LSP
If ground resonance is experienced during rotor spin-up, what action should you take?
A) Taxi to a smooth area.
B) Make a normal takeoff immediately.
C) Close the throttle and slowly raise the spin-up lever.

87. PLT486 LSP
Select the true statement concerning gyroplane taxi procedures.
A) Avoid abrupt control movements when blades are turning.
B) The cyclic stick should be held in the neutral position at all times.
C) The cyclic stick should be held slightly aft of neutral at all times.

88. PLT149 LSP
Select the true statement concerning gyroplane taxi procedures.
A) Avoid abrupt control movements when blades are turning.
B) The cyclic stick should be held in the neutral position at all times.
C) The cyclic stick should be held slightly aft of neutral at all times.

89. PLT470 LSP
During the transition from pre-rotation to flight, all rotor blades change pitch
A) simultaneously to the same angle of incidence.
B) simultaneously but to different angles of incidence.
C) in sequence to the same angle of incidence.

90. PLT260 LSP
During the transition from pre-rotation to flight, all rotor blades change pitch
A) simultaneously to the same angle of incidence.
B) simultaneously but to different angles of incidence.
C) to the same degree at the same point in the cycle of rotation.