

Pre- Solo Knowledge Exam Cessna 172 The Flying Service at Tri Cities

Purpose

FAR 61.87(b) specifies that prior to conducting solo flight, a student pilot must demonstrate satisfactory aeronautical knowledge on a knowledge test that is administered and reviewed by the students authorized instructor and meets the requirements of the section. The test must address the student pilot's knowledge of applicable sections of FAR Parts 61 and 91, C-172 Information manual, airspace rules and procedures for the airport where the solo flight will be performed and flight characteristics and operational limitations for the make and model of aircraft to be flown.

Student pilots should understand that the pre-solo written exam is a separate exam and is different from and in addition to the FAA Recreational or Private Pilot knowledge tests.

Exam Procedures and Instructions

This pre-solo written exam will be given to a Student Pilot in anticipation of solo flight. This is an "open book" exam. Answers to most questions can be found in the current FAR/ AIM or the Pilots Operating Handbook/Owners Manual for the aircraft to be flown. Each of the questions in this exam requires the Student Pilot to supply an answer rather than choose the correct answer as in most FAA tests. Consequently, some research and "digging" will be necessary. After the Student Pilot completes the exam, it will be reviewed with the student's instructor. Any incorrect answers will be discussed and corrected.

All questions address important areas that are critical to safe, legal and enjoyable flying. It is critical that the information contained in this test be known and understood.

Cessna 172 Pre-Solo Written Exam

Student Name: _____

Date: ____ - ____ - ____

1. What type of engine is in the aircraft? _____
2. How much horsepower does the engine create? _____
3. Is the aircraft's engine normally aspirated? _____
4. Explain the function of carburetor heat, how it works, and when it should be utilized: _____

5. What is the maximum fuel load for the aircraft? (Usable/Total) _____
6. What is the minimum/maximum oil level for the aircraft? _____
7. Define empty weight, and what is the empty weight for this aircraft? _____

8. List the VFR day and night equipment requirements (*all items must be listed*):

VFR Day

VFR Night

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9. Define the following V-Speeds for this aircraft. In any case where the speed is depicted on the airspeed indicator, also include the indication marking listed on the airspeed indicator.
- a. V_x _____
 - b. V_y _____
 - c. V_a _____
 - d. V_{so} _____
 - e. V_{s1} _____
 - f. V_{ne} _____
 - g. V_{fe} _____
 - h. V_g _____
 - i. V_{no} _____
10. What is the crosswind limit for the Cessna 172? _____
11. What documents are you required to keep in your possession when flying solo as a student pilot? _____

12. What are your limitations as a student pilot regarding carrying of passengers or cargo and flying for compensation or hire? _____
13. When are you required to have your seat belt secured? _____
14. If two aircraft are approaching an airfield for landing on the same runway, which aircraft has the right-of-way? _____

15. Except for takeoff and landing, what is the minimum altitude you should fly over congested (populated) / non-congested (sparsely populated) areas? _____
16. If you cannot obtain the local altimeter setting, what should you do? _____

17. Provide visibility and cloud clearance requirements for the following airspace.
- Class D- _____
 - Class E below 10,000' MSL- _____
 - Class G below 1,200' AGL during the day- _____
 - Class G below 1,200' AGL at night- _____

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18. What is a LAHSO? Can you accept a LAHSO clearance as a student pilot? _____

19. During engine run-up, you cause rocks, debris and propeller blast to be directed toward another aircraft or person.

Could this be considered careless or reckless operation of an aircraft? Why or why not?

20. What is the meaning of the following light signals that you may receive from a control tower?

In Flight	Light Signal	On Ground
	Steady Green	
	Flashing Green	
	Steady Red	
	Flashing Red	
	White	
	Alternating Red/Green	

21. What is the standard direction of traffic patterns unless otherwise stated? _____

22. Draw the airport diagram at KTRI, complete with taxiways.

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23. Describe the procedure for entering and exiting the traffic pattern at a non-controlled airfield.

24. How far out from an uncontrolled field should you make your initial call on the CTAF? _____

25. What are the approach speeds for this aircraft with the following flap settings?

a. 0° _____

b. 10° _____

c. 20° _____

d. 30° _____

26. When operating under VFR flight rules above 3,000' AGL, what altitudes should you select for the cruise phase?

27. According to regulations, what is the maximum blood alcohol content (BAC) that is permissible to be present in the bloodstream when acting as PIC? _____

28. Generally, how long should you wait between the last consumption of alcohol and acting as PIC? _____

29. What is the recovery technique should your aircraft enter a spin? _____

30. Describe the process of initiating a go-around from beginning to end. _____

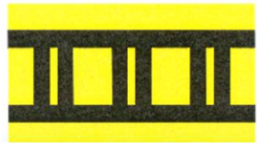
31. What is the procedure if you experience an engine failure in flight? _____

32. What type of fuel does this aircraft use? What color is it? What would you do if the incorrect fuel is aboard the aircraft? _____

33. What is the minimum amount of fuel for reserves (day and night) ? _____

34. What do the following airport markings mean?













35. Is it ever permissible to drop items from an aircraft? _____

36. What is a MOA? Can/should you fly through a MOA? _____

37. What are your duties as PIC? _____

38. Are you permitted to deviate from regulations in any situation? _____

39. During a run-up, you notice that the engine is running rough when on the left magneto. What has likely occurred, or will occur? What should you do? _____

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40. When must the navigation (position) lights be in operation on the aircraft? _____
41. What is and what causes wake turbulence? How do you avoid wake turbulence during flight, takeoff, and landing?
- _____
- _____
- _____
42. Scenario: You are cruising from KTRI to KCHA at 6,500' MSL and you notice that your alternator has failed. You are currently in VFR flight conditions. How would you recognize this problem? What steps would you take? Would this cause problems with any other phases of flight? _____
- _____
- _____
- _____
- _____
43. Using the same scenario from question 42, would you experience any engine issues? Why/why not? _____
- _____
- _____
44. Scenario: You have just departed from runway 23 at KTRI. You are currently 800' AGL, and you experience a complete loss of engine power. Describe, in detail, the steps that you will take to make a safe landing? _____
- _____
- _____
- _____
45. Are you permitted to carry passengers while solo as a student pilot? _____
46. If ATC gives you an instruction that you believe may be unsafe, or would directly violate regulations or the aircraft's operating handbook, what must you do? _____
47. What inspections must be completed on the aircraft in order for it to be considered airworthy? How often are these inspections required?

Inspection	Due every

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48. Who has final authority over the aircraft and its safety? _____

49. What documents must be aboard the aircraft at all times?

50. If at any time during takeoff / landing you experience any problem, what should you do?

- a. Takeoff: _____
- b. Landing: _____

I certify that I have administered this pre-solo flight aeronautical knowledge exam, in accordance with FAR 61.87b and have reviewed all areas with this student. All areas that have been identified as deficient have been discussed and the student exhibits a level of understanding/application that are consistent with safe and legal operation of the aircraft.

Date test administered: ____ - ____ - ____

CFI Signature: _____

CFI Name/Cert#/Expiration (printed): _____ / _____ / Exp: ____ - ____

Student Signature: _____