Pre-Solo Written Test

Remember, all questions are open book. If you use a source to answer a question note the source and page number (or FAR number and page) for easy reference. Draw a diagram whenever necessary and use another sheet of paper if you would like. Most of the answers can be found in FAR 61, FAR 91, the AIM, and your aircraft POH. This must be completed and given to your instructor prior to you flying solo. All incorrect questions will be corrected prior to final approval.

1. What personal documents and endorsements are you required to have before you fly solo?

How long do your endorsements last?

2. What are your student pilot limitations regarding carriage of passengers or cargo and flying for compensation for hire?

3. Explain student pilot limitations concerning visibility and flight above clouds.

4. Who has the final authority and responsibility for the operation of the aircraft when you are flying solo?

5. Discuss what preflight action concerning the airport and aircraft performance is specified in the regulations for local flight?

6. 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?

7. You may not fly as pilot of a civil aircraft within _____ hours after consumption of any alcoholic beverage, or while you have _____% by weight or more alcohol in the blood.

8. What are the general requirements pertaining to the use of safety belts and shoulder harnesses?
9. What is the minimum fuel reserve for day VFR flight, and on what cruise speed is the fuel reserve based?

10. A transponder in Mode-C is required at all times in all airspace at and above _____ feet MSL, excluding that airspace at and below _____ feet AGL.

11. What aircraft certificates and documents must be on board any time you are flying? (AROW)

12. Who has the right of way when two aircraft are on final approach to land at the same time?

13. What action do you need to take if you are overtaking another aircraft and which aircraft has the right-of-way? What should you do if you are flying a head-on collision course with another aircraft? If another single-engine aircraft is converging from the right, who has the right of way? Draw pictures if needed.

   Overtaking?  Converging?

   Head on?

14. Except when necessary for takeoffs and landings, what are the minimum safe altitudes when flying over congested and other than congested areas?
15. What VFR cruising altitudes should you use when operating under VFR in level cruising flight at more than 3000 feet AGL?

16. When practicing steep turns, stalls and maneuvering during slow flight, the minimum entry altitude must allow a recovery to be completed no lower than ________AGL.

17. When is a go-around appropriate?

18. If an altimeter setting is not available at an airport, what setting should you use before departing on a local flight?

1. What general steps should you follow after an engine failure in cruise flight?

2. What general steps should you follow after an engine failure just after takeoff?

**Aircraft Questions**
1. List the minimum equipment and instruments that must be working properly in your aircraft for day VFR flight.

2. Provide the V-speed definitions and corresponding speeds for your training airplane.

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3. What is the best glide speed for your training airplane?
   What benefit does the best glide speed provide when experiencing an engine failure?
   What happens if a speed either faster or slower is maintained?

4. What is maximum allowable flap setting for takeoff in your aircraft?

5. The total fuel capacity for your aircraft is _____gallons. Usable____?
   Why is there unusable fuel?

6. On a standard day at 3000' the fuel consumption during normal cruise (approx. 75% power) is _____gallons per hour, which will allow the plane to fly for ________ hours.

Fuel
7. What grade(s) of fuel can be safely used in your aircraft?
   What is the color(s) of the recommended fuels?
   What happens to the color of the fuel if two grades are mixed?
   What color is Jet Fuel (JetA)?
   If your fuel sample come out clear what could it be? How can you be certain what it is?
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Oil
8. The maximum oil capacity of your aircraft is ____ quarts, and the minimum is____? The safe minimum oil capacity to begin a flight is ____quarts.
Are the oil levels the same on all the aircraft that you fly?

What type of oil does your aircraft use? (viscosity and brand?)

9. The maximum crosswind component specified by your instructor for solo takeoffs and landings in the training aircraft is ___ knots.
What happens if you knowingly fly beyond this limitation?

10. What are the indications of carburetor icing?

11. When should you use carburetor heat?

12. If you have carb ice and you apply heat, what are the expected result?

1. What is the takeoff and landing distance over a 50 foot obstacle for your aircraft at your airport? Assume maximum certified takeoff weight and current local conditions.

Airport and Local Airspace Questions
1. What are the traffic patterns for each runway at your airport? What is the MSL altitude for the traffic pattern? Draw a detailed picture for EVERY available runway.
2. How do you enter and exit the traffic pattern at your airport? What, if any, radio communications are required?

3. Where would you make a call when you are inbound to your airport?

4. What radio calls are recommended in the traffic pattern at an uncontrolled airport?

5. What is the standard direction of turns in the traffic pattern?

6. What is CTAF? Is CTAF every used at your home airport?

7. How can you determine if a runway is closed?

**Airspace**
8. What are the typical dimensions of Class D airspace and what requirements must be met prior to entry?
9. If you receive ATC instructions that you feel may compromise safety or will cause you to violate a FAR, what should you do?

10. When are ATC light signals used? What colors are used in flight and on the ground? Please provide all colors/scenarios. Also, make sure this chart is available on your kneeboard! This will be required prior to solo.

11. In addition to equipment requirements and a student pilot certificate, what other requirements, if any, must be met before a student pilot is authorized to fly solo in Class B airspace?

12. Explain the general transponder equipment and use requirements when operating within or near Class B airspace.

13. What color is Class Bravo airspace on a VFR chart?

14. You have called ATC just prior to entering Class B airspace, and the controller tells you to “squawk 2466 and ident”. Are you now allowed to enter Class B airspace without further instructions?

15. On a sectional chart, what does a dashed magenta line around an airport indicate?

16. Explain the minimum visibility and ceiling requirements for VFR flight in Class D airspace.

17. Can a student or recreational pilot request a special VFR clearance in Class D airspace when visibility is less than 3 miles?

18. You have called ATC prior to entering Class C or D airspace, the controller responds with your call sign and tells you to “stand by”. Are you now allowed to
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enter this airspace without any further instructions? Explain.

19. Describe the typical dimensions of Class C airspace.

20. What visual references can you use to identify where the airspace begins or ends at your home airport? What points can you not fly past without establishing radio communications with the tower? Draw a simple map of your airspace.