



**P R E S O L O
W R I T T E N
E X A M**

Students Name (Please Print)

Date of Completion

Introduction

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, 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 is an "open book" exam. Answers to most questions can be found in either the current FAR/AIM or the Pilots Operating Handbook/Owner's Manual for the aircraft to be flown. 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. This is not a pass/fail exam. All questions address important areas that are critical to safe, legal and enjoyable flying. It is most important that the information be known and understood.

Presolo Written Exam

This exam contains a total of 65 questions; 22 general questions, 21 aircraft questions, and 22 airport and airspace questions. Normally, the general and aircraft questions apply to all students; however, some of the airport and airspace questions may not be applicable. Flight instructors who administer this test may add or delete questions as necessary to make the exam more appropriate to your training aircraft and the surrounding flight environment.

General Questions

Instructions: All students should answer the general questions.

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

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

3. During the 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? _____

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

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

6. Discuss what preflight action concerning the airport and aircraft performance as specified in the regulations for a local flight.

7. You may not fly as pilot of a civil aircraft within _____ hours after consumption of any alcoholic beverage, or while you have _____ grams/deciliter of blood or more of alcohol in your 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 with Mode C is required at all times in all airspace at and above _____ ft MSL, excluding that airspace at and below _____ ft AGL.

11. At your local airport, where is an operating mode C transponder required?

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

13. What aircraft certificates and documents must be on board when you are flying solo?

A - _____

R - _____

R - _____

O - _____

W - _____

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

15. What action do you need to take if you are overtaking another aircraft and which aircraft has the right-of-way?

16. What should you do if you are flying a head-on collision course with another aircraft?

17. If another single-engine aircraft is converging from the right, who has the right-of-way?

18. Except when necessary for takeoffs & landings, what are the minimum safe altitudes when flying over congested and other than congested areas?

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

20. What is the emergency frequency?

21. What altitudes should you use when operating under VFR in level cruising flight at more than 3,000' AGL?

22. When is a go-around appropriate?

Aircraft Questions

Instructions: All students should answer the aircraft questions. If necessary, the instructor may include additional questions that are pertinent to the make & model of the aircraft to be flown. The instructor will also designate which make & model of aircraft these questions should be answered for. Make & Model: _____
N _____

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

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

2. What is the best glide speed for your aircraft?

No Flap _____ KIAS With Flaps _____ KIAS

3. What flap settings should be used in your training aircraft for the following operations?

Takeoff: Normal _____ Short Field _____ Soft Field _____

Landing: Normal _____ Short Field _____ Soft Field _____

4. The total usable fuel capacity for your aircraft is: _____ gal. On a standard day (sea level temperature, 59°F, altimeter 29.92 in Hg), the fuel consumption rate during normal (approximately 75% power) cruise is: _____ gph.

5. Fill in the V-speed definitions and the corresponding speed for your aircraft.

	Definition	Speed
(V _{SO})	_____	_____ KIAS
(V _S)	_____	_____ KIAS
(V _X)	_____	_____ KIAS
(V _Y)	_____	_____ KIAS
(V _{FE})	_____	_____ KIAS
(V _A)	_____	_____ KIAS
(V _{NO})	_____	_____ KIAS
(V _{NE})	_____	_____ KIAS

6. List the specific steps for a go-around in your training aircraft.

_____	_____
_____	_____
_____	_____
_____	_____

7. List the specific steps for engine failure inflight for your training aircraft?

_____	_____
_____	_____
_____	_____
_____	_____

8. What grade(s) of fuel can be safely used in your aircraft, and what is/are its/their colors?

9. What happens to the color of the fuel if two grades are mixed?

10. The maximum oil capacity of your aircraft is: _____ qts, and the minimum oil quantity to begin a flight is: _____ qts.

11. The maximum crosswind component specified by your instructor for solo takeoffs and landings in your aircraft is: _____ kts

12. When do you use carburetor heat?

13. What are the indications of carburetor icing?

14. How does the maneuvering speed (V_a) change with changes in gross weight of an aircraft?

15. Under what circumstances could a spin occur in your training aircraft?

16. Describe the spin recovery procedures for your training aircraft.

17. What is the stall speed of your training aircraft in a 60° bank with flaps up?

Aircraft Performance

18. Perform the following calculations using the conditions provided:

Field Elevation: 5000'	10kts Headwind
Temperature: 75°F	Hard Surface Runway
Max Gross Weight	Altimeter Setting: 29.92"Hg
T/O Ground Roll Distance _____	Over a 50' Obstacle _____
Rate of Climb to 7500' _____	
Landing Ground Roll Distance _____	Over a 50' Obstacle _____

Field Elevation: 7500'	Wind Calm
Temperature: 90°F	Hard Surface Runway
Max Gross Weight	Altimeter Setting: 29.42"Hg
T/O Ground Roll Distance _____	Over a 50' Obstacle _____
Rate of Climb to 9500' _____	
Landing Ground Roll Distance _____	Over a 50' Obstacle _____

19. What power setting in your training aircraft will yield 75% power at 7500'MSL at standard temperature?

20. What is the true air speed and fuel flow at the power setting in the above question?

Weight & Balance

21. Enter the current weight & balance information for your training aircraft and then calculate the weight & balance for the conditions given.

Aircraft: N Maximum Gross Takeoff Weight: #

Full Tanks; 180# passenger in each seat; 25# baggage

Items	Weight #	X	Arm "	=	Moment "#
Aircraft OEW					
Pilot & Pax Front					
Passengers Rear					
Total Fuel					
Baggage Area 1					
Baggage Area 2					
Totals					
Center of Gravity:					

If this is over maximum gross takeoff weight or out of CG range, alter the load to correct the problem.

Airport and Local Airspace Questions

Instructions: Flight instructors may assign only those questions that pertain to the student's airport environment and the surrounding local area. However, if necessary, instructors may assign additional questions for a particular flying area.

1. What are the traffic patterns for each runway at your airport?

2. What is the MSL altitude for your traffic pattern, and what is the standard AGL altitude for other airports?

3. How do you enter and exit the traffic pattern at your airport?

4. What radio communications are required at your airport?

5. What is the standard direction of turns in the traffic pattern? Give an example of a visual display indicating a nonstandard traffic pattern.

6. What is CTAF? Explain CTAF procedures at your training airports.

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

8. What are the typical dimensions of Class D airspace and what requirement(s) must be met prior to entry?

9. If you receive ATC instructions that you feel may compromise safety or will cause you to violate an FAR, what should you do?

10. What is the meaning of each of the following ATC light signals?

In Flight

Steady Green: _____

Flashing Green: _____

Flashing Red: _____

Steady Red: _____

On The Ground

Flashing Red: _____

Flashing Green: _____

11. Explain the general transponder equipment and use requirement(s) when operating within or near Class B airspace.

12. Discuss Class B airspace boundaries, and how they apply to an airport within that airspace. Explain how you can use navigation equipment and/or ground reference points to identify the Class B boundaries. (Utilize the local TAC chart)

13. You have called ATC just prior to entering the Class B airspace, and the controller tells you to "Squawk 2466 and ident." Are you now allowed to enter the Class B airspace without any further instructions? Explain.

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

15. What is the significance of this to VFR pilots?

16. What is a Special VFR clearance?

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

18. Provide visibility & cloud clearance requirements for the following airspaces, day only, and below 10,000'.

	Visibility SM	Above Ft	Below Ft	Horizontally Ft
Class G ↑1200'				
Class E				
Class D				
Class C				
Class B				

19. You have called ATC prior to entering Class C airspace, and the controller responds with your call sign and tells you to "Standby." Are you now allowed to enter this airspace without any further instructions? Explain.

20. Describe the typical dimensions of Class C airspace.

21. Is participation in the radar service mandatory within the outer area of Class C airspace?

22. Describe the Class C boundaries that affect your airport or a nearby airport. Explain how you can use navigation equipment and/or ground reference points to identify the Class C airspace inner core surface area and shelf area, as well as the outer area. (Utilize the TAC Chart)

Instructor's Name (Please Print)

Instructor's Signature

Instructor's Certificate # & Expiration Date

Date of Review

Don't forget to also endorse the student's logbook.