

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Student Pilot Cert Nr: \_\_\_\_\_

Score: \_\_\_\_\_

Airplane Make and Model: \_\_\_\_\_

CFI: \_\_\_\_\_

**INSTRUCTIONS:** Students will complete this exam for the airplane to be used during the first solo. **This test must be completed and reviewed with the student by the assigned CFI prior to the first solo flight to satisfy the requirements of FAR 61.87.** This test complies with the guidance for Presolo Written Tests in Advisory Circular 61-101 and will be maintained in the RAFA files for a period of three years.

**PART 1 - Aircraft Specific**

1. Complete your aircraft operating speeds in knots (K) indicated air speed or MPH (M) indicated air speed, definitions, and any associated airspeed indicator markings:

	<u>Speed</u>	<u>K/M</u>	<u>Definition</u>	<u>Marking on Airspeed Indicator</u>
V <sub>SO</sub>	_____	_____	_____	_____
V <sub>S</sub>	_____	_____	_____	_____
V <sub>X</sub>	_____	_____	_____	_____
V <sub>Y</sub>	_____	_____	_____	_____
V <sub>A</sub>	_____	_____	_____	_____
V <sub>FE</sub>	_____	_____	_____	_____
V <sub>NO</sub>	_____	_____	_____	_____
V <sub>NE</sub>	_____	_____	_____	_____
Best-glide speed	_____	_____	_____	_____

- The maximum allowable gross weight for takeoff of this airplane is \_\_\_\_\_ lbs.
- The total usable fuel capacity of your airplane is \_\_\_\_\_ gallons. Aviation fuel weighs \_\_\_\_\_ lbs per gallon; therefore, the total usable fuel weight is \_\_\_\_\_ lbs.
- The electrical system of your airplane operates at \_\_\_\_\_ volts and uses a \_\_\_\_\_ volt battery.
- This aircraft must be refueled after each flight.    True    False
- During your run-up, the maximum allowable RPM drop per magneto is \_\_\_\_\_ and the permissible split between magnetos is \_\_\_\_\_ RPM.

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7. You are about to solo this airplane (N \_\_\_\_\_). Compute the total weight, moment, and center of gravity for yourself with full fuel. (Refer to the aircraft logs or weight and balance summary in the flight planning area for the weight and balance data for your airplane).

	<u>Weight</u>	X	<u>Arm</u>	=	<u>Moment</u>
You	_____		_____		_____
Fuel	_____		_____		_____
Baggage	_____		_____		_____
Airplane	_____		_____		_____
Totals:	_____		_____		_____

Where is the center of gravity from the reference datum line? \_\_\_\_\_ inches.  
Is this within the airplane's center of gravity envelope? Yes No

**PART 2 - General Information**

- 8. The three letter identifier for Redstone AAF is: \_\_\_\_\_
- 9. According to FAR 91.103, each pilot in command shall, before beginning a flight, become familiar with \_\_\_\_\_ concerning that flight.
- 10. Radio frequencies used when training at Redstone are:

Huntsville ATIS: _____	Huntsville approach control (E): _____
Redstone tower: _____	Rocket (RQZ) VORTAC: _____
Anniston FSS: _____	Emergency frequency: _____

11. The FAA requires that the following documents be onboard the aircraft:

A: _____	W: _____
R: _____	S: _____
O: _____	

12. On the back of this sheet, indicate north and draw the Redstone AAF runway, showing Army and RAFA ramps, taxi routes for RAFA and Army ramp. Label runways and hold-short locations. Draw a traffic pattern (wind 020) and show downwind altitude, pattern legs, engine RPM, flap setting and target speed for each leg.

13. What does GUMPS stand for?

G: \_\_\_\_\_ U: \_\_\_\_\_ M: \_\_\_\_\_ P: \_\_\_\_\_ S: \_\_\_\_\_

14. What minimum fuel reserves are required for VFR flights? Day: \_\_\_\_\_ Night: \_\_\_\_\_

15. According to the AIM, how long will the FSS keep a VFR flight plan on file after the proposed time of departure? \_\_\_\_\_

16. Once you have opened your VFR flight plan, when will the FSS begin search procedures if you have not called for an extension or notified them to close your flight plan?

\_\_\_\_\_

17. What documentation must a student pilot have in his physical possession or be immediately accessible in the aircraft during solo cross-country flight?

\_\_\_\_\_

18. Strong or gusty quartering tail winds are potentially the most hazardous when conducting taxi operations. Which statement reflects the proper control-surface deflections for taxiing with this type wind?

- a. Turn control yoke away from the wind and use full down elevator.
- b. Control yoke full aft, ailerons neutral.
- c. Turn control yoke into the wind and use full down elevator.
- d. Control yoke full forward, ailerons neutral.

19. You are preparing to depart Redstone AAF on a solo flight when the control tower is closed and there are no other aircraft in the pattern. List three sources and frequencies from which you can get a two-way radio check:

<u>Source</u>	<u>Frequency</u>
_____	_____
_____	_____
_____	_____

20. If you notice engine roughness during the magneto check, what is the most likely cause?

\_\_\_\_\_ You can usually clear this up by \_\_\_\_\_  
\_\_\_\_\_

- 21. What should you do if you have a fire due to a flooded carburetor while attempting to start the engine? \_\_\_\_\_  
\_\_\_\_\_
  
- 22. Once you have established two-way radio contact with the Redstone tower from the ramp, what information should you provide next?  
\_\_\_\_\_
  
- 23. You are on the RAFA ramp and ready to taxi when the controller says, "Taxi to runway 17."
  - a. What does this clearance permit you to do? \_\_\_\_\_
  
  - b. What is your reply? \_\_\_\_\_
  
- 24. After you have completed your run-up on the RAFA taxiway, the controller clears you to taxi into position on runway 17 and hold. What does this clearance permit you to do?  
\_\_\_\_\_  
\_\_\_\_\_
  
- 25. You are holding on runway 17 ready for takeoff when you lose radio communication with the tower. What should you do? \_\_\_\_\_  
\_\_\_\_\_
  
- 26. You have departed runway 17 at Redstone AAF and have turned downwind when the controller instructs you to execute an immediate 360° turn to the right for spacing. What should you do?  
\_\_\_\_\_
  
- 27. You have reported that you are established on the base leg when the controller tells you to continue. Does this authorize you to land?      Yes      No  
Explain: \_\_\_\_\_
  
- 28. Why does a standard traffic pattern for fixed wing airplanes have turns to the left (left traffic) and why is it rectangular in shape? \_\_\_\_\_  
\_\_\_\_\_
  
- 29. You are on climbout (approximately 500 feet AGL) and the engine fails. What should your actions be? \_\_\_\_\_

If an engine failure should occur on climbout at Redstone and you are below 1500 feet MSL, where should you try to land? \_\_\_\_\_  
\_\_\_\_\_

**PART 3 - True/False. Circle correct answer.**

30. T F A drug-related offense or an alcohol-related traffic conviction may result in revocation of your student pilot certificate and preclude you from becoming a pilot for up to one year.
31. T F Prior to your first solo, you must have taken a presolo written test, been given specific instruction in the make and model aircraft you will solo, and receive an instructor endorsement on your student pilot certificate and in your logbook.
32. T F If the aircraft vacuum pump fails, the turn coordinator and attitude indicator fail.
33. T F If approaching another aircraft headon, you should alter your course to the right.
34. T F Your instructor is responsible for determining the airworthiness of the airplane you solo in.
35. T F Student pilots are prohibited from carrying passengers.
36. T F A student pilot must receive an endorsement from an authorized instructor prior to every solo cross-country flight.
37. T F When flying over a congested area, you must remain at least 1,000 feet above the highest obstacle.
38. T F In order to remain clear of all restricted airspace on Redstone Arsenal, you should remain north of Martin Road and east of Redstone AAF.
39. T F A spin cannot occur unless the aircraft first enters a stall.
40. T F When making your initial call to air traffic control, you should identify yourself as a student pilot.
41. T F Unless otherwise instructed by ATC, the transponder should be set to the ALT position and set to beacon code 0155 for VFR flight.
42. T F The student pilot certificate and the Class III medical certificate are valid for one year.
43. T F The official aircraft maintenance logbooks (airframe, engine, propeller) are required to be carried in the airplane at all times.
44. T F In order to log solo time, a student pilot must fly as the sole occupant of the airplane.
45. T F When returning to the RAFA parking ramp, you should taxi with the nose wheel on the yellow taxi line while observing the wing tips for obstruction clearance.

- 46. T F Student pilots must fly with an instructor each 30 days and must have a written logbook endorsement by the CFI each 90 days to remain current for solo flight.
- 47. T F In winter it's OK to begin a flight with a small amount of frost on the wings.
- 48. T F Student pilots must attend quarterly safety meetings in order to fly solo.
- 49. T F All aircraft are subject to buildup of static electricity in flight, so it is important to always ground the plane prior to refueling.
- 50. T F With the exception of Area Bravo, which is always hot to 2400 ft 24/7, overflying restricted areas is prohibited by RAFA pilots unless ATC has stated that the areas are not in use.

Restricted airspace at Redstone - Fill in the blanks

<u>Number</u>	<u>Altitude</u>	<u>Time of use</u>
2104 A	_____	_____
2104 B	_____	_____
2104 C	_____	_____

Place an A, B, or C in the appropriate circles below

