

## **Pre-Solo and BFR Written**

Choose the most correct answer:

1. While banking for a turn, the down aileron causes increased lift of the high wing. If you did not use the rudder, you could expect:
  - a) The nose to yaw to the inside of the turn
  - b) The nose to yaw to the outside of the turn
  - c) No adverse effects
  - d) Any of the above, depending on the conditions
  
2. VFR flight above 1,200 feet AGL and below 10,000 feet MSL, in Class E airspace, requires a minimum visibility and vertical cloud clearance of:
  - a) Three miles, and 1000 feet below or 2000 feet above the clouds at all altitudes within and outside of the controlled space
  - b) Five miles, and 1000 feet below or 1000 feet above the clouds at all altitudes
  - c) Three miles, and 500 feet below or 1000 feet above the clouds within controlled airspace
  - d) Five miles, and 1000 feet below or 1000 feet above the clouds only within the Continental Control Area
  
3. A sailplane pilot should do which of the following when flying his final approach into a 20 mph headwind and seems to be undershooting.
  - a) Raise the nose to slow the aircraft to just above stall speed and decrease the sink rate
  - b) Use spoilers
  - c) Lower the nose to increase the penetration
  - d) Stretch the glide by flying at minimum sink speed
  
4. To solo a glider, an applicant must be at least:
  - a) Old enough that he can see out of the canopy
  - b) 14 years of age
  - c) 16 years of age
  - d) No requirement concerning age

5. Consider the hazards of wake turbulence. The wing tip vortices trailing behind large airplanes in flight....
- a) are least severe when the large airplane is at low speed during climb after takeoff and approach for landing
  - b) will increase in intensity and violence as the speed of the large airplane increases
  - c) are most pronounced when the airplane is at low speed during climbs or approaches for landing
  - d) will present no hazard, so long as the vortices are encountered in level cruising flight
6. To operate an aircraft over any congested area, a pilot should maintain an altitude of at least:
- a) 500 feet above the highest obstacle within a horizontal radius of 500 feet
  - b) 500 feet above the highest obstacle within a horizontal radius of 1000 feet
  - c) 2000 feet above the highest obstacle within a horizontal radius of 1000 feet
  - d) 1000 feet above the highest obstacle within a horizontal radius of 2000 feet
7. Assume two aircraft of different categories are approaching head on at approximately the same altitude. Which of the following is a true statement?
- a) A jet airliner has the right-of-way over all other aircraft
  - b) An aircraft towing and refueling other aircraft does not have the right-of-way over all other engine driven aircraft
  - c) A glider has the right-of-way over an airship
  - d) Neither aircraft has the right-of-way and both aircraft should alter course to avert a collision
8. The main purpose of spoilers, dive brakes, and similar devices is to:
- a) Allow the pilot to slow up the aircraft without pulling back on the stick
  - b) Allow the pilot to adjust his angle of attack
  - c) Control stability about the lateral axis
  - d) Steepen the glide path still keep the speed under control

9. During aero tow you notice the tow plane rock its wings. This means:
- a) The tow plane has flown into moderate turbulence
  - b) The tow plane is in a thermal and you should release
  - c) The tow plane wants you to release immediately
  - d) You should assume low tow position
10. Who is responsible for determining whether an aircraft is in condition for safe flight?
- a) The maintenance man who maintains the aircraft
  - b) The pilot in command
  - c) The owner of the aircraft
  - d) The maintenance inspector
11. When conducting aero tow operations, your tow rope should have a breaking strength of:
- a) 1,200 pounds
  - b) Three times the certificated operating weight of the sailplane
  - c) Not less than 80% and not more than 200% of the certificated operating weight of the sailplane
  - d) At least twice the certificated operating weight of the tow plane
12. If you lose sight of the tow plane, on tow, you should:
- a) Use your dive brakes to get back into position
  - b) You should slip to get back into position
  - c) Use either a. or b. or a combination of thereof
  - d) Immediately release
13. When approaching to land at an airport without an operating control tower in Class G airspace
- a) Each pilot should make all turns to the right.
  - b) Direction of turns are at the pilots discretion.
  - c) Visual markings are always displayed indicating the direction of traffic.
  - d) Use left hand traffic unless otherwise indicated.
14. Part 830 of the FAR's contain what information?
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15. If slack in the tow line occurs, what action should you take?

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16. You are overtaking another plane on the ridge. You should pass on the \_\_\_\_\_ and know that \_\_\_\_\_ has the right-of-way.

17. Can you fly the ridge solo with a verbal o.k. from your instructor? \_\_\_\_\_ Why? \_\_\_\_\_

18. Name some surface wind indicators: \_\_\_\_\_

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19. What is your pre-landing check list? Why do you use it?

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20. Why should a pattern always be made for any type of landing?

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21. Which way should you circle when joining others in a thermal?

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22. What do you always do before entering a turn or a stall?

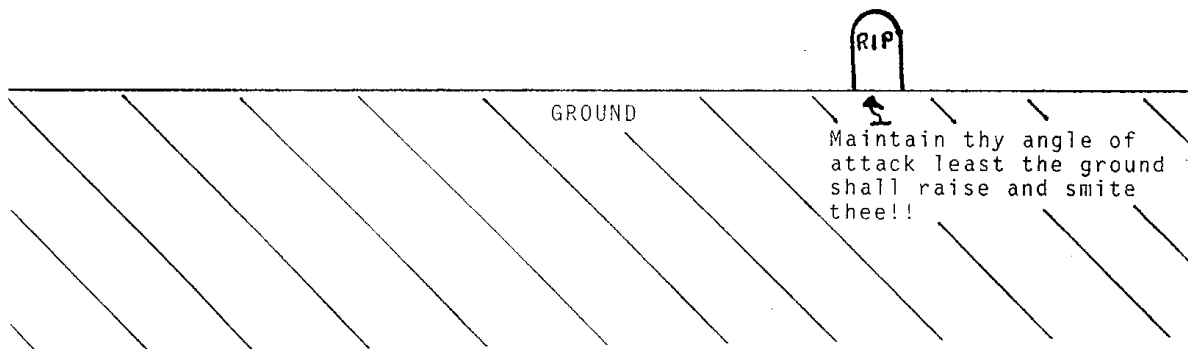
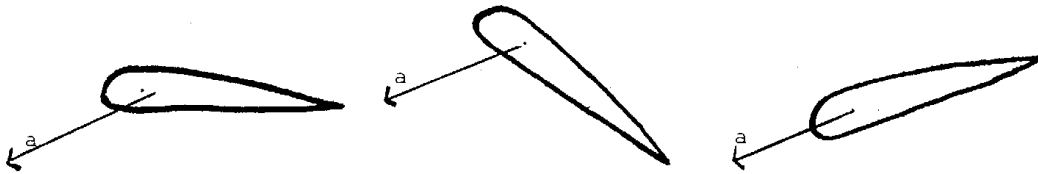
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23. Name the documents required on your possession and required in the sailplane during each flight. \_\_\_\_\_

24. Draw in and label "b" through "h" on each diagram below.

- a) Relative movement (sometimes called Relative wind)
- b) Chord line.
- c) Lift.
- d) Drag.
- e) Gravity.
- f) Angle of attack.
- g) Air flow.
- h) Separation point.



25. In addition to ABCCCD pre-take off list, what should you do?

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26. If you have a rope break when departing runway 26 and the wind is 250 @ 20k what would you do:

a) At 100 feet AGL? \_\_\_\_\_

\_\_\_\_\_

b) At 250 feet AGL? \_\_\_\_\_

\_\_\_\_\_

c) At 500 feet AGL? \_\_\_\_\_

\_\_\_\_\_

27. Name the five undesirable effects of a turn, and explain;  
(from "Joy of Soaring")

a) \_\_\_\_\_

\_\_\_\_\_

b) \_\_\_\_\_

\_\_\_\_\_

c) \_\_\_\_\_

\_\_\_\_\_

d) \_\_\_\_\_

\_\_\_\_\_

e) \_\_\_\_\_

\_\_\_\_\_

28. In case of emergency, what is the first thing you do? \_\_\_\_\_

\_\_\_\_\_

29. What is a positive control check? \_\_\_\_\_

\_\_\_\_\_

30. When do you use a forward slip & when do you use a side slip

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31. Give the speed and define the following (assume you are flying a 2-33);

- a) Red line speed \_\_\_\_\_ mph \_\_\_\_\_
- b) Maneuvering speed \_\_\_\_\_ mph \_\_\_\_\_
- c) Best glide speed \_\_\_\_\_ mph \_\_\_\_\_
- d) Minimum sink speed \_\_\_\_\_ mph \_\_\_\_\_
- e) Stall speed solo \_\_\_\_\_ mph \_\_\_\_\_
- f) Stall speed dual \_\_\_\_\_ mph \_\_\_\_\_

32. What is the % increase of stall speed during a 45 degree bank turn: \_\_\_\_\_%

33. Using the weight and balance data, for the Schweizer 2-33 given below, determine:

- a) The total gross weight. \_\_\_\_\_
- b) Actual C.G. location. \_\_\_\_\_
- c) Is the gross weight within the allowable maximum? \_\_\_\_\_
- d) Is the C.G. within limits? \_\_\_\_\_

If not what can be done? \_\_\_\_\_

2-33 Weight and Balance data  
Sample Aircraft

Range: sta. 78.20 to sta. 86.10  
Maximum authorized gross weight: 1040 lbs.  
Arm: sailplane empty 96.12  
front pilot 43.80  
rear pilot 74.70  
Sailplane empty weight: 691 lbs  
Pilots weights: front pilot 98 lbs  
rear pilot 240 lbs

34. What do the FAR's say regarding the use of supplemental oxygen for pilot in command and for other aircraft occupants?

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35. What conditions or circumstances might make a pilot or passenger susceptible to hypoxia at altitudes lower than the maximum altitude allowed for flying without supplemental oxygen?

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36. Why does the stall speed increase, and why does an airplane stall more easily in a turn, than in level flight?

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37. Explain "crab angle" and its use. \_\_\_\_\_

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38. Explain the difference between a crab and a slip. \_\_\_\_\_

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39. What makes an aircraft turn? \_\_\_\_\_

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40. How close can you fly to cloudbase while ridge flying? \_\_\_\_\_

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41. Describe a spiral dive and how you recover from one. \_\_\_\_\_

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42. Describe a spin and how you recover from one. \_\_\_\_\_

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43. According to the Soaring Flight Manual "Glossary of Terms" what is "Speed to Fly"?

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44. According to the *Joy of Soaring*, what is a good rule of thumb for figuring "Speed to Fly in Wind" for a final glide?

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45. While searching for thermal lift in the 2-33 you experience strong sink you know to fly what speed?

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46. What are some of the advantages to diving into ground effect? \_\_\_\_\_

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47. Describe a crosswind take-off and landing and explain the control usage. \_\_\_\_\_

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48. How do you judge winds aloft, while you are in flight? \_\_\_\_\_

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49. Describe the signal for the following commands.

- a) Take up Slack \_\_\_\_\_
- b) Take-off (glider) \_\_\_\_\_
- c) Tow Plane (response) \_\_\_\_\_
- d) Circuit \_\_\_\_\_
- e) Ridge \_\_\_\_\_
- f) Wave \_\_\_\_\_
- g) Slow Down \_\_\_\_\_
- h) Speed Up \_\_\_\_\_
- i) Emergency Release \_\_\_\_\_
- j) Can NOT release (Glider) \_\_\_\_\_
- k) Tow plane unable to release \_\_\_\_\_

50. At what altitude does Class A airspace begin and what are the requirements for flying within that airspace?

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