SSA Bronze Badge Study Guide Q1-20

1) A flat bottomed cumulus cloud with sharp edges
   (a) is a reliable indication of thermal lift
   (b) indicates a dissipating thermal
   (c) is not a reliable indication of thermal lift

2) A spread out, shallow layer of cloud
   (a) is a reliable indication of thermal lift
   (b) indicates a developing thermal
   (c) is usually not associated with thermals

3) Best L/D speed would be the best to fly when
   (a) thermaling
   (b) flying to a landing field in a headwind
   (c) flying to a landing field in a tailwind
   (d) flying to a landing field in a crosswind

4) Best L/D speed plus 1/2 the estimated wind speed would be the best speed to fly when
   (a) thermaling
   (b) flying to a landing field in a headwind
   (c) flying to a landing field in a tailwind
   (d) flying to a landing field in a crosswind

5) When thermaling, the best speed to fly is
   (a) Best L/D speed
   (b) Best L/D plus 1/2 the estimated wind
   (c) Best L/D plus 1/2 the estimated wind
   (d) minimum sink speed for the angle of bank being flown

6) Minimum sink speed would be the best speed to use for
   (a) flying through thermals with no intention of stopping to circle
   (b) attaining the most ground coverage for altitude
   (c) flying between thermals

7) What performance factor is recommended for beginning cross country pilots when planning safe decision points?
   (a) Best L/D glide ratio
   (b) 1/2 best L/D glide ratio
   (c) 2 times best L/D glide ratio
8) To assure landing at an airport at anytime on a cross country flight, a pilot should
   (a) plan decision points
   (b) fly the best L/D speed
   (c) plan the flight using 1/2 the best L/D glide ratio

9) When determining safe decision points:
   (a) plan to arrive over airports at a minimum altitude of 1000 AGL
   (b) plan the flight using 1/2 the best L/D glide ratio
   (c) both a and b

10) When flying cross country, at a minimum altitude of 3000 AGL you should
    (a) select a specific landing area(s)
    (b) be on the upwind leg of a specific landing area
    (c) select a general landing area(s)

11) When flying cross country at a minimum altitude of 2000 AGL you should
    (a) select a specific landing area(s)
    (b) be on the upwind leg of a specific landing area
    (c) select a general landing area(s)

12) When flying cross country at a minimum altitude of 1000 AGL you should
    (a) select a specific landing area(s)
    (b) be on the upwind leg of a specific landing area
    (c) select a general landing area(s)

13) When flying cross country with a specific landing area chosen, an alternate landing area should be within easy reach in case of discovering a hazard as low as:
    (a) 500 - 1000 AGL
    (b) 1200 - 1500 AGL
    (c) 2000 - 2500 AGL
    (d) 3000 AGL and above

14) Prior to takeoff on a cross country flight, the altimeter should read
    (a) zero
    (b) field elevation
    (c) pressure altitude setting
    (d) density altitude setting

15) During a cross country flight the altimeter should read height above
    (a) ground level
    (b) destination airport
    (c) departure airport
    (d) sea level

16) How many statute miles will a glider with a 30:1 glide ratio travel for each 1000 feet of altitude loss?
    (a) 30 miles
    (b) 300 miles
    (c) 3000 miles
    (d) 30000 miles

\[ \frac{1}{30} \text{ of altitude loss} = \text{30 ft forward} \Rightarrow \frac{30}{1000} = 30,000 \approx 5,680 \text{ statute miles} \]
17) How many statute miles will a glider with a 30:1 glide ratio at 50 mph travel for each 1000 feet of altitude loss with a 10 mph headwind?

- (a) 4.1 miles
- (b) 4.5 miles
- (c) 5.7 miles
- (d) 12 miles

18) How much altitude will a glider with a 30:1 glide ratio lose while traveling one statute mile in still air.

\[
\frac{5280}{30} = 176
\]

19) In calm winds, 20 statute miles from the airport, in a glider with a 30:1 glide ratio at 50 mph, how high do you need to be to arrive over the airport at 1000' AGL? Airport elevation is 800' MSL. Assume no safety factor. Assume pilot flies at 50 mph.

- (a) 3500 MSL
- (b) 4500 MSL
- (c) 5320 MSL

20) With a 10 mph headwind, 15 statute miles from the airport, in a glider with a 30:1 glide ratio at 50 mph, how high do you need to be to arrive 1000' AGL at the airport? Airport elevation is 800 MSL. Assume no safety factor. Assume pilot flies at 50 mph.

- (a) 3300 MSL
- (b) 5100 MSL
- (c) 5300 MSL
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21) In addition to a valid Airworthiness Certificate, what documents or records must be aboard an aircraft during flight?
   ○ a) Aircraft engine and airframe logbooks, and owner's manual.
   ○ b) Radio operator's permit, and repair and alteration forms.
   ○ c) Operating limitations and Registration Certificate.

22) A blue-segmented circle on a Sectional Chart depicts which class airspace?
   ○ a) Class B.
   ○ b) Class C.
   ○ c) Class D.

23) Outside controlled airspace, the minimum flight visibility requirement for a pilot flying VFR above 1,200 feet AGL and below 10,000 feet MSL during daylight hours is:
   ○ a) 1 mile.
   ○ b) 3 miles.
   ○ c) 5 miles.

24) What minimum radio equipment is required for operation within Class C airspace?
   ○ a) Two-way radio communications equipment and a 4096-code transponder.
   ○ b) Two-way radio communications equipment, a 4096-code transponder, and DME.
   ○ c) Two-way radio communications equipment, a 4096-code transponder, and an encoding altimeter.

25) In which type of airspace are VFR flights prohibited?
   ○ a) Class A.
   ○ b) Class B.
   ○ c) Class C.

26) Who is responsible for determining if an aircraft is in condition for safe flight?
   ○ a) A certificated aircraft mechanic.
   ○ b) The pilot in command.
   ○ c) The owner or operator.

27) Two-way radio communication must be established with the Air Traffic Control facility having jurisdiction over the area prior to entering which class airspace?
   ○ a) Class C.
   ○ b) Class E.
   ○ c) Class G.
28) A steady green light signal directed from the control tower to an aircraft in flight is a signal that the pilot:
   ○ a) Is cleared to land.
   ○ b) Should give way to other aircraft and continue circling.
   ○ c) Should return for landing.

29) Unless otherwise specifically authorized, no person may operate an aircraft with an experimental certificate:
   ○ a) Beneath the floor of Class B airspace.
   ○ b) Over a densely populated area or in a congested airway.
   ○ c) From the primary airport within Class D airspace.

30) The responsibility for ensuring an aircraft is maintained in an airworthy condition is primarily that of the:
   ○ a) Pilot in command.
   ○ b) Owner or operator.
   ○ c) Mechanic who performs the work.

31) Which preflight action is specifically required of the pilot prior to each flight?
   ○ a) Check the aircraft logbooks for appropriate entries.
   ○ b) Become familiar with all available information concerning the flight.
   ○ c) Review wake turbulence avoidance procedures.

32) An aircraft's annual inspection was performed on July 12, this year. The next annual inspection will be due no later than:
   ○ a) July 1, next year.
   ○ b) July 13, next year.
   ○ c) July 31, next year.

33) Where may an aircraft's operating limitations be found?
   ○ a) On the Airworthiness Certificate.
   ○ b) In the current, FAA-approved flight manual, approved manual material, markings, and placards, or any combination thereof.
   ○ c) In the aircraft airframe and engine logbooks.

34) If an in-flight emergency requires immediate action, the pilot in command may:
   ○ a) Deviate from the FAR-6s to the extent required to meet the emergency, but must submit a written report to the Administrator within 24 hours.
   ○ b) Deviate from the FAR-6s to the extent required to meet that emergency.
   ○ c) Not deviate from the FAR-6s unless prior to the deviation the Administrator grants approval.

35) The width of a Federal Airway from either side of the centerline is:
   ○ a) 4 nautical miles.
   ○ b) 6 nautical miles.
   ○ c) 8 nautical miles.

36) According to FARs, the minimum allowable strength of a towline used for an aero tow of a glider having a certificated gross weight of 700 pounds is:
   ○ a) 560 pounds.
   ○ b) 700 pounds.
   ○ c) 1,000 pounds.
37) An emergency parachute composed exclusively of synthetic fiber must have been packed by a certificated and appropriately rated parachute rigger within the preceding:
   ○ a) 60 days.
   ○ b) 120 days.
   ☒ c) 180 days.

38) Which aircraft has the right-of-way over all other air traffic?
   ○ a) A balloon.
   ○ b) An aircraft in distress.
   ☒ c) An aircraft on final approach to land.

39) What document(s) must be in your personal possession or readily accessible in the aircraft while operating as pilot in command of an aircraft?
   ○ a) Certificates showing accomplishment of a checkout in the aircraft and a current biennial flight review.
   ○ b) A pilot certificate with an endorsement showing completion of an annual flight review and a pilot logbook showing recency of experience.
   ☒ c) An appropriate pilot certificate and valid photo I.D.

40) Below FL180, en route weather advisories should be obtained from an FSS on:
   ○ a) 122.0 MHz.
   ○ b) 122.1 MHz.
   ☒ c) 123.6 MHz.

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SSA Bronze Badge Study Guide Q41-60

41) With a 10 mph tailwind, 20 statute miles from the airport, in a glider with a 28:1 glide ratio at 50 mph, how high do you need to be to arrive 1000' AGL at the airport? Airport elevation is 800' MSL. Assume no safety factor. Assume pilot flies at 50 mph.

- a) 3150 MSL
- b) 4940 MSL
- c) 5500 MSL

42) A glider with a glide ratio of 28:1 at 50 mph would lose how much altitude per statute mile? Assume no wind.

- a) 189 feet
- b) 357 feet
- c) 265 feet

43) The altimeter is a reliable reference for determining your height above the ground in preparation for an off field landing.

- a) true
- b) false
- c) true if it was set to 0 prior to takeoff
- d) true if it was set to field elevation before takeoff

44) Judging the size of cars and objects on the ground is the preferred method for determining your height above the ground in preparation for an off field landing.

- a) true
- b) false

45) Using angles is the preferred method for determining your height above the ground in preparation for an off field landing.

- a) true
- b) false

46) In preparation for an off field landing, the downwind leg should be positioned:

- a) as close to the field as possible
- b) no closer than the height of the sailplane
- c) at least 45 deg. below the sailplane

47) "You won't get hurt if you land in the dirt" means:

- a) The earth color of a cultivated field is one of the best landing sites to look for
- b) When using a parachute aim for an area of dirt
- c) The land owner is less likely to assault you if you avoid his expensive crops
48) A plowed field makes an excellent landing site.
   (a) true  (b) false

49) A freshly harvested field is
   (a) a poor landing site  (b) likely to contain animal holes and irrigation pipes  (c) a better choice than a crop in full growth  (d) both b and c

50) The lush green of a full grown crop
   (a) provides a soft cushioned landing with minimal damage  (b) is usually a color to stay away from  (c) is better to land in than a plowed and harrowed field

51) What is a good way to detect uneven, rolling terrain?
   (a) uneven texture or color in a field  (b) depth perception  (c) highway signs

52) When forced to land on a slope, with the wind blowing up the hill, you should
   (a) land uphill, even though downwind  (b) land upwind, even though downhill  (c) land crosswind

53) When preparing to land on a slope, you should remember
   1. the slope isn’t as bad as it looks from the air.
   2. the slope is worse than it looks from the air.
   3. the rollout is likely to be very short.
   4. there is an optical illusion which may cause you to land short of your intended touchdown spot.
   5. be sure to use extra airspeed to lift the nose of the glider higher than normal in the flare
   (a) 1, 3, & 4 are correct  (b) 2, 3, & 4 are correct  (c) 2, 3, 4, & 5 are correct

54) Touching down as slow as possible with the main wheel and tail wheel touching simultaneously
   (a) is the preferred technique for an off field landing  (b) is a poor technique and could result in damage  (c) uses too much of the available field length

55) When approaching to land over an obstacle, the obstruction has a lateral effect equal to ____ times it’s height
   (a) 2  (b) 5  (c) 8  (d) 10

56) The first leg of an off field landing traffic pattern should be the
57) You should use the same size pattern and speed in an off field landing as you would on a normal landing.
   - a) true
   - b) false - the speed should be slower
   - c) false - the size should be smaller
   - d) false - the size should be larger

58) When forced to land in a tall crop (wheat, corn) dive brakes should be open at touchdown.
   - a) true
   - b) false

59) Where it is recommended that the beginning cross country pilot land during an off field landing?
   - a) close to a gate to make retrieval easy
   - b) as close to the approach end as possible
   - c) in the middle of the biggest suitable field

60) You should not land with the landing gear retracted.
   - a) true
   - b) false
   - c) it can't possibly be that simple