

MVP Aviation

Pre-Solo Knowledge Test
CESSNA 172/180 N20068
(Adapted from www.safepilots.org)
Rev 4-1-2021

NAME: _____ DATE: _____

You will need:

Federal Aviation Regulations (FAR's), Aeronautical Information Manual (AIM) with Pilot/Controller Glossary, Aviation Sectional Chart, Private Pilot Airman Certification Standards, Airport/Facility Directory, Pilot's Operating Handbook for the airplane in which you are training (POH), Performance and Weight & Balance information from the MVP website (bottom CONTACT page). Be sure to use the 172/180HP performance and appropriate weight and balance charts (Not the 172 POH generic).

Please provide a summarized answer, but be prepared to discuss in more detail:

1. What is the most important line on an airport, and why? (Draw it)

2. Brakes - True or False (circle T or F)

| | | | |
|---|-------|--|-------|
| Brakes are primary for steering | T / F | Up elevator helps with braking | T / F |
| Brakes can blow tires/closing a runway | T / F | I must exit where the controller tells me | T / F |
| Rudder is the primary means of steering | T / F | Braking in a turn is the best method | T / F |
| Tires are cheap, less than \$100 | T / F | Feet should stay at the top of the rudders | T / F |
| Retracting flaps helps with braking | T / F | It is ok to brake with one rudder pedal | T / F |

3. What do you do if you bounce the nose wheel? (from training)

4. Who is ultimately responsible for the operation of an aircraft and what does that responsibility entail?
FAR 91.3 and FAR 1.1 (Pilot-in-Command)

5. What must a student pilot have in his/her logbook in order to solo an airplane? FAR 61.93 (c)

6. What qualifies as a cross country flight? FAR 61.1 Cross-country time... (ii)(b)

7. What personal documents must a Student Pilot carry when flying cross country? FAR 61.51 (i)(2)

8. What must a student pilot have in his/her logbook in order to solo an airplane on a cross country flight of **more than** 50 nm from the training airport for the first time? FAR 61.93 (c)(1) and (2)

9. What must a student pilot have in his/her logbook in order to solo an airplane on repeated cross country flights of **less than** 50 nm from the training airport? FAR 61.93 (b)(2)

10. What must a student pilot have in his/her logbook in order to solo an airplane doing touch and go takeoff and landing practice at an airport within 25 nm from the training airport? FAR 61.93 (b)(1)

11. What must a student pilot have in his/her logbook in order to solo an airplane on all cross country flights of **more than** 50 nm from the training airport? FAR 61.93 (c)(3) (i,ii,iii)

12. Can a student pilot carry passengers? FAR 61.89

13. You may not fly an airplane within _____ hours after the consumption of an alcoholic beverage or with ___ % by weight or more of alcohol in your blood. FAR 91.17

14. What airplane documents must be onboard the airplane for every flight? FAR 91.9 and FAR 91.203

15. Explain preflight action requirements necessary before flying an airplane. FAR 91.7 and FAR 91.103

16. Are you allowed to fly in Restricted Airspace? Are you allowed to fly in Prohibited Airspace? FAR 91.133 and AIM 3-4-2 and 3

17. How are Restricted and Prohibited airspace depicted a Sectional Chart? See the legend of any Sectional Chart (you can Google “sectional chart legend”)

18. Are all Restricted and Prohibited airspace depicted on Sectional Charts? FAR 91.139

19. If you have concern over the safety of a proposed flight path, where can you go for help? AIM 4-1-3 and AIM 5-1-3

20. What are the day-Visual Flight Rule (VFR) fuel requirements? FAR 91.151

21. Explain the use of safety belts and shoulder harnesses for crew members. FAR 91.105

22. Explain the use of safety belts and shoulder harnesses for passengers. FAR 91.107 (a)(3)

23. What are the basic Visual Flight Rule (VFR) weather minimums? FAR 91.155

24. For a student pilot, are there more restrictive visibility requirements than basic VFR visibility minimums? FAR 61.89

25. For a student pilot, are there more restrictive flight-above-cloud requirements than basic VFR visibility and cloud separation requirements? FAR 61.89

26. How do you file and activate a VFR Flight Plan? (AIM)

27. What number do you call for a weather briefing from an FSS (Flight Service Station)

1-800 _____

28. What are the minimum safe altitudes for the operation of an airplane? FAR 91.119

29. When two airplanes are approaching at right angles to each other at the same altitude, what action should each take? FAR 91.113 (d)

30. When practicing performance maneuvers such as steep turns, slow flight, power-on or power-off stalls, you should do so at an altitude of at least _____ feet AGL

31. List the meaning of the following ATC light gun signals: FAR 91.125

IN FLIGHT

ON GROUND

| | | |
|-------|---------------------------|-------|
| _____ | Steady Green | _____ |
| _____ | Flashing Green | _____ |
| _____ | Steady Red | _____ |
| _____ | Flashing Red | _____ |
| _____ | Flashing White | _____ |
| _____ | Alternating (Red & Green) | _____ |

32. What is the difference between a towered and a non-towered airport? Is the training airport a towered or a non-towered airport? Pilot/Controller Glossary See-TOWER, AIM 4-3-2 (a) and AIM 4-1-9 (a) through (c)

33. Explain the procedures you would use to land at the training airport if your communication radios failed in flight. FAR 91.185 (b), AIM 6-4-1 and 6-4-2

34. Draw the runway configuration and the major taxiway configuration of the training airport. See Airport/Facility Directory

35. What are the normal traffic patterns and traffic pattern altitudes around the training airport? Airport/Facility Directory - and AIM 4-3-4 (including FIGs 4-3-2 and 4-3-3)

36. What are the following radio frequencies at the training airport? Airport/Facility Directory

ATIS _____ Ground Control _____ Tower _____

Approach Control _____ Departure Control _____

Common Traffic Advisory Frequency (CTAF) _____

37. List the airspeeds and their definitions for your training airplane: FAR 1.2 and POH Section 2

| | Airspeed (mph) | Definition |
|-----|----------------|------------|
| VSO | _____ | _____ |
| VS1 | _____ | _____ |
| VR | _____ | _____ |
| VX | _____ | _____ |
| VY | _____ | _____ |
| VFE | _____ | _____ |
| VA | _____ | _____ |
| VNO | _____ | _____ |
| VNE | _____ | _____ |

38. What is the **maximum ramp (gross) weight** for your training airplane?

39. What is the **maximum takeoff weight** for your training airplane?

40. What is the **maximum fuel capacity** for your training airplane and how much of that capacity is **usable**?

41. What is the **minimum and maximum** oil capacity of your training airplane?

42. What is the best glide speed for your training airplane?

43. When is carburetor heat recommended in your training airplane?

44. Explain the recommended use of flaps for the normal landing of your training airplane.

45. Explain the procedures you would follow if the engine failed in your training airplane immediately after takeoff.

46. Explain the procedures you would follow if the engine failed in your training airplane on takeoff after crossing the end of the runway and before you reached 400 feet.

47. Explain the procedures you would follow if the engine failed in your training airplane at 3,500 feet AGL while you are flying over sparsely populated terrain.

48. Compute the location of the center of gravity (CG) for a solo flight with full fuel in the training airplane. Is the CG within acceptable limits? (use W&B information from the MVP Website)

49. What is the takeoff roll and the takeoff distance over a 50-ft. obstacle for your training airplane at the training airport at 2,400 # gross weight, a temperature of 20° centigrade, a 5-knot head wind, when the altimeter reads 2,000 ft with a Kollsman window setting of 29.92 inches of mercury?

50. What is the ground roll and total landing distance over a 50-ft. obstacle for your training airplane at the training airport with a 2,100 # gross weight, a temperature of 25° centigrade, calm wind, when the altimeter reads 3,500 ft with a Kollsman window setting of 29.92 inches of mercury?

Date Reviewed: _____

CFI

Student