

## PRIVATE/COMMERCIAL

1. How long is your Private or Commercial certificate valid?
2. What class medical certificate must you have and how long is it valid?
3. What must you do to remain current to act as pilot-in-command?
4. What must you do to remain current to carry passengers; day or night?
5. What is the emergency authority of a pilot-in-command?
6. What documents must be in the aircraft during flight?
7. What inspections must the aircraft have to be considered airworthy?
8. What must be in the flight manual?
9. What is meant by operating limitations?
10. What are AD's and how must they be complied with?
11. How can you prove the aircraft is airworthy for flight?
12. What are the minimum instruments and engine equipment requirements for VFR flight?
13. What are ELT's?
14. Explain the right-of-way rules.
15. What position lights are required on the aircraft and when must they be on?
16. Know the aircraft light gun signals, both ground and air.
17. What are the minimum safe altitudes for flight?
18. What are the VFR minimum fuel requirements for day and night?
19. When is a transponder required for flight?
20. Explain the hemispheric rule for VFR cruising altitudes.
21. What are the basic Unicom frequencies? FSS frequencies?
22. What are AIRMETS and SIGMETS?
23. What does the lighted rotating beacon during daylight hours at a towered airport indicate?
24. What does a flashing amber light at an airport mean?
25. During nighttime hours, what does flashing lights outlining a tetrahedron mean?
26. Be able to explain class A,B,C,D,E and G airspace.
27. In some areas, the controlled airspace extends down to the surface (surface based Class E). Be able to explain the requirements for operating VFR in these areas. Be able to explain what special VFR is.
28. In some areas, the floor of controlled airspace starts at 700' AGL. Be able to explain the procedures for operating below 700' AGL.
29. What is the Continental Control Area and it's purpose?
30. Explain cloud clearances and visibility requirements at all altitudes as well as speed limits.
31. Where is the floor of controlled airspace typically located? Are there any variations?
32. How can a pilot suspect an airport has an instrument approach from the sectional?
33. What is meant by category and class of aircraft as it pertains to certification of airmen?
34. What is meant by category and class of aircraft as it pertains to certification of aircraft?
35. Define utility, normal and acrobatic category.
36. What is the formula for determining weight and balance?
37. Where is the ideal location for the center-of-gravity? Why?
38. Define datum, arm, moment, gross weight, empty weight, basic empty weight, standard empty weight, licensed empty weight and useful load.
39. What does stability mean as it pertains to an aircraft?
40. What is hazardous about over-loading the rear baggage compartment?
41. How do you determine what seat position is utilized for weight and balance on an adjustable seat? What is considered an average occupant?
42. How does the stall speed differ from the most rearward CG to the most forward CG?
43. Explain CAS, TAS, IAS and EAS.

44. Be able to draw an airspeed indicator and label all colored arcs and place all V-speeds at their proper location. ( $V_{so}$ ,  $V_{s1}$ ,  $V_{fe}$ ,  $V_{no}$ ,  $V_{ne}$ ,  $V_{le}$ ,  $V_{lo}$ ,  $V_a$ , RED LINE)
45. Explain  $V_x$ ,  $V_y$  and Best Glide Speeds.
46. Know the following information about the aircraft: Fuel capacity, oil capacity, type of landing gear, type of propeller, engine type and HP rating, service ceiling, useful load, oil currently being used, color of fuel & octane and fuel burn rate.
47. What is a common rule of thumb for determining fuel burn rate of an aircraft engine? (50% of 10%...i.e.  $300\text{HP} \times 10\% = 30$   $30 \times 50\% = 15$  gph)
48. What is **ground effect** and its hazards?
49. How many gyros does the aircraft have and how are they powered?
50. Where do you look to determine tire pressure requirements?
51. What is **hypoxia** and its symptoms?
52. Explain the procedures for radio failure when landing at a towered airport.
53. How is the landing speed at Lincoln (elev. 1200') different from that at Denver (elev. 5,000')?
54. What is considered the most hazardous type of front?
55. Describe the electrical system of the aircraft. (i.e. 28 volt system, 24 volt battery, 60 amp alternator)
56. What do Chevrons painted on the runway mean?
57. What are runway fixed distance markers?
58. What is an over-voltage relay and how is it reset should it malfunction?
59. Know the procedures to follow should the following situations arise:
  1. Engine fire during start-up.
  2. Engine fire during flight.
  3. Electrical fire during flight.
  4. Fire on either wing.
  5. Landing on a flat tire.
  6. Fueling while the aircraft is sitting on a slope.
60. Some airports have a small white dot located on the airport symbol. What does this dot identify?