

# AirOne

FLIGHT ACADEMY

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

Last, First, MI.

Date: (mo/dy/yr) \_\_\_\_\_

Pass/Fail: \_\_\_\_\_

Instructor: \_\_\_\_\_

Instructors Initials: \_\_\_\_\_

1. What is the engine Manufacturer:  
Model:  
Type:
2. What is the horsepower rating?
3. What is the total fuel capacity with normal tanks? Usable?
4. What is the total fuel capacity with long range tanks? Usable?
5. What is the approved fuel grade(s)? Fuel Color(s)?
6. Where are the fuel quick drain valves located?
7. When should the fuel be checked (sumped/drained)?
8. How should the fuel selector valve be positioned when refueling?  
  
Why?
9. How should the fuel selector valve be positioned for takeoff and landing?  
  
Why?
10. What is the maximum fuel burn at cruise performance in gallons per hour?

11. What is the total oil capacity?
12. What is the flight school's policy regarding oil quantity for;  
Normal flights of less than 3 hours?

For extended flights?

Minimum for flight?

13. What is the proper type of oil for use after break-in?
14. What is the proper grade of oil for OAT (outside air temperature):  
Below 0 degrees F? For above 60° F?

- |     | <u>Normal Category</u>                     | <u>Utility Category</u> |
|-----|--|-------------------------|
| 15. | What is the basic empty weight for N4891J? |                         |
| 16. | What is the maximum takeoff weight?        |                         |
| 17. | What is the useful load?                   |                         |
| 18. | Payload with full fuel?                    |                         |
- (refer to weight and balance data.)

19. What is the total combined weight capacity in the baggage compartment?
20. How much fuel can you carry with a front seat payload of 340 lbs., rear seat payload of 300 lbs., and 80 lbs. of baggage?
21. What is the maximum direct crosswind velocity?  
(maximum crosswind component)

**Questions 22-25 respecting the airspeed indicator and/or tachometer.**

22. What is the meaning of the green arc?  
Airspeed indicator:

Tachometer:

23. What is the range of the green arc?  
Airspeed indicator:  
Tachometer:
  
24. What is the maximum engine speed in RPM?  
Tachometer:
  
25. How are the maximum engine and air speeds indicated?  
Airspeed indicator:  
Tachometer:
  
26. What are the following recommended airspeeds in KIAS?

	<u>Flaps</u>	<u>Airspeed</u>
Normal takeoff/ climb:	Up	
Normal landing:	Up	
Normal landing:	Down	
En route climb, sea level:	Up	
Short-field takeoff/ climb:	Up	
Short-field landing:	Down	
Best rate-of-climb ( $V_y$ ) at sea level:		
Best angle-of-climb ( $V_x$ ) at sea level:		
Maximum flap extension $10^\circ$ ( $V_{fe10^\circ}$ ):		
Maximum flap extension full ( $V_{fe 11 - 40}$ ):		
Stall speed, clean ( $V_s$ ):		
Stall speed, full flaps ( $V_{so}$ ):		
Best glide speed:		
Best glide speed flap setting:		
Maneuvering speed, gross weight ( $V_a$ ):		
Never exceed speed ( $V_{ne}$ ):		

27. What speed should be maintained when penetrating turbulent air and why?
  
28. What is maneuvering speed ( $V_a$ ) at 1950 lbs.?
  
29. As gross weight increases, what happens to maneuvering speed?
  
30. How many flap settings are there, and how are they operated?

31. What is the power off stall speed ( $V_s$ ) in landing configuration?
32. What is the flap setting and airspeed for a Soft field takeoff?  
Short field landing?
33. When will the stall horn sound?
34. Name four indications of a stall.
  - 1.
  - 2.
  - 3.
  - 4.
35. How do you detect carburetor ice?
36. How do you clear carburetor ice?
37. What is the proper procedure for continued use of carburetor heat?
38. How do you detect an alternator malfunction?
39. How do you restore electrical power with an alternator malfunction?
40. What do you do if you cannot restore the alternator?
41. In the event of electrical failure, what flight instruments and equipment would be lost?

42. In the event that the vacuum pump failed without a back-up system, what flight instruments would be lost?
43. Where is the alternative static source located?
44. What flight instruments would be lost if the static system was plugged and there was no alternate static source?
45. What is the correct crosswind landing technique?
46. What is the procedure for a balked landing (go around)?
47. What is the procedure for engine failure immediately after takeoff?
48. Why is it important to lock the engine primer after use?
49. What aircraft documents must be on board the aircraft during flight?
50. What is the range in zero wind, 65% power at 4,000 ft., standard temperature, 40 gallons usable fuel, and (night fuel reserve) 45 minutes reserve fuel?
51. What is the hourly fuel consumption (lean mixture) at 4,000 ft pressure altitude, standard temperature, and 75% power?

52. What is the power setting, fuel consumption, and TAS (true airspeed) with maximum gross weight at 8,000 ft, 75% power and standard temperature?  
Power:  
Fuel consumption:  
True Airspeed (TAS):
- 53: Figure the takeoff distance for a short-field takeoff at maximum gross weight, a pressure altitude of 3,000 ft., and a temperature of 20°C.  
Ground roll:  
Total distance to clear a 50 foot obstacle:
54. Work the weight and balance configuration for full fuel, weight of pilot and front passenger of 300 lbs., rear passenger weighing 150 lbs., and baggage of 100 lbs.  
Gross weight:  
Moment:  
C.G. location:
55. How does angle of bank affect stall speed?
56. What is the effect (danger) of loading an airplane aft of C.G. limits?

**What is the stall speed in the following configurations?**

**Most Rearward Center Of Gravity**

57.

Weight Lbs.	Flap Deflection	Angle of bank			
		0 <sup>0</sup>	30 <sup>0</sup>	45 <sup>0</sup>	60 <sup>0</sup>
		KIAS	KIAS	KIAS	KIAS
2300	UP				
	10 <sup>0</sup>				
	40 <sup>0</sup>				

**Most Forward Center Of Gravity**

58.

Weight Lbs.	Flap Deflection	Angle of bank			
		0 <sup>0</sup>	30 <sup>0</sup>	45 <sup>0</sup>	60 <sup>0</sup>
		KIAS	KIAS	KIAS	KIAS
2300	UP				
	10 <sup>0</sup>				
	40 <sup>0</sup>				