

References required to complete this test: Piper Arrow Information Manual, dated July 1973 and RAFA SOP, Feb 2003. Questions pertain to both Arrows.

1. The engine in the Piper Arrow is a:
  - a. Lycoming O-320, 180BHP
  - b. Lycoming IO-360-CIC, 200 BHP
  - c. Lycoming IO-360-CIC6, 300 BHP
  - d. Continental O-360, 180 BHP
  
2. The oil sump capacity is:
  - a. 7.5 quarts
  - b. 6 quarts
  - c. 8 quarts
  - d. 9 quarts
  
3. What is the normal operating range and maximum oil pressure for the engine?
  - a. 25 to 60 psi, 90 psi
  - b. 60 to 90 psi, 90 psi
  - c. 60 to 90 psi, 100 psi
  - d. 25 to 90 psi, 100 psi
  
4. The total usable fuel capacity is:
  - a. 34 US gals
  - b. 65 US gals
  - c. 48 US gals
  - d. 74 US gals
  
5. After returning from a flight, the fuel tanks should be filled:
  - a. To the maximum capacity of 48 gallons usable
  - b. Do not refuel - let the next pilot fill tanks to the desired level for his flight
  - c. To the tabs (34 gallons usable)
  - d. To 3/8 inch below the filler neck to allow for expansion
  
6. In the event the landing gear does not extend, the pilot should take the following action:
  - a. Reduce airspeed below 100 MPH
  - b. Be sure landing-gear selector switch is in the gear-down position
  - c. If gear still does not extend, push down on emergency-release lever until gear is locked in place
  - d. All of the above

7. To prime the engine for a normal cold start:
- With the electric fuel pump on, move the mixture control to full rich until fuel flow is indicated, then return to idle cutoff
  - Advance the throttle two or three times
  - Apply strokes on the manual primer
  - A combination of b. and c.
8. To ensure positive fuel flow, the electric fuel pump should be used:
- During takeoff and landing
  - If the engine-driven pump fails
  - While switching fuel tanks
  - All of the above
9. What are the best rate-of-climb and best angle-of-climb airspeeds?
- 95mph gear down, 100mph gear up / 85mph gear down, 96mph gear up
  - 100mph gear down, 105mph gear up / 90mph gear down, 98mph gear up
  - 105mph gear down, 110mph gear up / 80mph gear down, 90mph gear up
  - 98mph gear down, 104mph gear up / 85mph gear down, 98 mph gear up
10. Using the short-field takeoff technique with aircraft at max gross weight and 25° of flaps, the total takeoff distance over a 50-foot obstacle from an airport at 4,000 feet and no wind is:
- 1,250 feet
  - 1,600 feet
  - 2,500 feet
  - 2,800 feet
11. You are on a cross-country flight at 5500 feet, power set at 2300 RPM, 24 inches manifold pressure, mixture set for best power. Is the power setting appropriate for this flight?
- Yes
  - No
12. At 6,000 feet pressure altitude, standard temperature and 2400 RPM with the airplane at maximum gross weight, a manifold pressure of 21.5 inches will provide:
- 74%BHP, 150MPH TAS, and approx. 11.21 GPH fuel consumption
  - 65%BHP, 138MPH TAS, and approx. 10.42 GPH fuel consumption
  - 65%BHP, 153MPH TAS, and approx. 9.16 GPH fuel consumption
  - 75%BHP, 158MPH TAS, and approx. 10.15 GPH fuel consumption

13. Landing-gear operating speeds for the Arrow are:
- 130 MPH retraction/115 MPH extension
  - 125 MPH retraction/150 MPH extension
  - 120 MPH retraction/160 MPH extension
  - 150 MPH retraction/125 MPH extension
14. The normal extension and retraction time for the landing gear is:
- 5 sec
  - 10 sec
  - 7 sec
  - 15 sec
15. The highest speed at which the first 10° of flaps can be deployed ( $V_{FE}$ ) is:
- 150 MPH
  - 105 MPH
  - 130 MPH
  - 125 MPH
16. The best glide speed for maximum distance ( $V_{GM}$ ) with gear retracted and at maximum gross weight is:
- 120 MPH
  - 105 MPH
  - 98 MPH
  - 90 MPH
17. With the gear extended, glide distance is:
- About the same
  - Half that with the gear retracted
  - Doubled
  - 1.6 miles per 1,000 feet
18. The landing gear will automatically extend:
- Only when the gear selector switch is in the down position
  - When the emergency gear lever is locked in the up position
  - Never. The automatic gear extension system has been disabled in this airplane
  - Below approximately 105 MPH with engine power off and the autoextension system enabled

19. When executing the prelanding checklist, the gear down-and-locked status can be verified by:
- a. Visual reference
  - b. No warning horn
  - c. Visual reference and three green lights
  - d. Three green lights
20. If the panel-light dimmer switch is “on” during daylight hours, the three green landing-gear indicator lights may appear to be “off.”
- a. True
  - b. False
21. Final speed for a normal approach should be:
- a. 90 MPH with flaps
  - b. 88 MPH with flaps
  - c. 100 MPH no flaps
  - d. 95 MPH with flaps
22. When executing an emergency go-around, the propeller control should be set at:
- a. 2800 RPM
  - b. Full forward
  - c. 2400 RPM
  - d. Left at the cruise setting
23. The maximum demonstrated crosswind component is:
- a. 20 kts
  - b. 20 MPH
  - c. 15 kts
  - d. 15 MPH
24. The maximum certificated takeoff weight is:
- a. 2500 lbs
  - b. 2650 lbs
  - c. 2850 lbs
  - d. 2550 lbs
25. Is the Piper Arrow approved for intentional spins?
- a. Yes
  - b. No