

Kirtland Flight Center

Cessna 182RG

Please do not write or mark on the reference material.

Minimum passing score is 80%. Each question is worth 2.5 points.

1. (POH 1-4) N9849C has long range tanks. How much is useable fuel?
 - a. 75 gallons
 - b. 80 gallons
 - c. 56 gallons

2. (POH 1-4) The C182RG holds _____ quarts of oil in the sump and _____ quarts total.
 - a. 9/12
 - b. 8/9
 - c. 7/8

3. (POH 1-5) What is the maximum allowable baggage weight? (Total in both areas.) _____. What is the total allowed in area "B"? (The aft shelf.) _____.
 - a. 200/80
 - b. 120/80
 - c. 250/100

4. (POH 2-7) This aircraft is prohibited from operation in known icing conditions by the POH and Flight Center SOPs.
 - a. True
 - b. False

5. (POH 3-4) The POH recommends that forced landings be made with the gear retracted if terrain is rough or soft.
 - a. True
 - b. False

6. (POH 3-7) In the event of a cabin fire; the vents, windows, and cabin air selectors should be open to force fresh air into the cabin.
 - a. True
 - b. False

7. (POH 3-8) If you need to extend the landing gear manually, you should always first insure that the gear handle is in the down position before pumping the manual pump handle.

- a. True
- b. False

8. (POH 3-8) If you should inadvertently encounter unforecast icing which fails to melt or sublimate prior to landing, you should land with the _____ degrees of flaps.

- a. 30
- b. 20
- c. 0

9. (POH 3-16) The auxiliary fuel pump should be switched on:

- a. when fuel pressure drops below 0.5 PSI.
- b. for takeoff and landing.
- c. when switching fuel tanks.

10. (POH 3-16) A gradual loss in engine manifold pressure with steady RPM is likely a sign of

- a. carburetor ice.
- b. magneto failure.
- c. prop governor failure.

11. (POH 3-17) Normal gear extension time is approximately

- a. 10 - 15 seconds.
- b. 5 - 7 seconds.
- c. 20 - 25 seconds.

12. (POH 3-17) If hydraulic power pack operation is audible after a period of one minute following gear retraction, you should

- a. pull the GEAR PUMP circuit breaker to prevent the pack from overheating. (Reset prior to landing and gear extension.)
- b. slow to 85 KIAS and cycle the gear until it "locks up".
- c. attempt to retract the gear with the manual gear pump.

13. (POH 3-17) If you fail to get a gear down indication on downwind, you should check the indicator light bulbs and cat eyes, check the master switch and circuit breaker; then if you don't get the proper indication,

- a. depart the pattern to a place where you have room to deal with the problem.
- b. set the landing gear lever to the down detent and manually extend the gear with the hand pump.
- c. Both of these answers are correct.

14. (POH 3-19) If the over voltage light illuminates a second time and a malfunction is confirmed, the flight
- can be continued until a total electrical failure occurs.
 - can be continued without any precautionary actions.
 - should be terminated as soon as practical.
15. (POH 3-19) If the ammeter indicates a continuous discharge, you should
- turn off all non-essential equipment and terminate the flight as soon as practical.
 - reset the alternator by cycling both sides of the master switch.
 - reset the alternator by cycling the alternator side of the master switch.
16. (POH 4-3) The maximum demonstrated crosswind for this aircraft is
- 15 KNOTS
 - 18 KNOTS
 - 21 KNOTS
17. (POH 4-3) Normal climb (gear and flaps up) should be accomplished at
- 70 - 80 KNOTS
 - 88 KNOTS
 - 90 - 100 KNOTS
18. (POH 4-3) V_x at 10,000' is
- 88 KIAS
 - 74 KIAS
 - 66 KIAS
19. (POH 4-19) To achieve best power, adjust the mixture for 50 degrees rich side of peak EGT. For best economy, operate at leanest setting that results in smooth engine operation or peak EGT.
- True
 - False
20. (POH 5-4) What is the expected ground roll for a new aircraft, piloted by a test pilot, and using a perfect short field takeoff technique? (Conditions - 3100 lbs., 6,000' Pressure Altitude, (86 F/30 C)
- 1770
 - 1520
 - 1570

21. (POH 5-7) At gross weight, cowl flaps closed, perfect leaning technique, a new aircraft ought to burn _____ gallons an hour at 8,000' @ 64% power on an ISA day.

- a. 12.2
- b. 11.3
- c. 11.5

22. (POH Section 6) (See Figure 1.) Conditions: front seat occupants - 270 lbs., rear seat occupants 420 lbs., full fuel, 80 lbs. of baggage. What is the gross weight _____ and moment _____? Is this a legal load?

USE DATA ON LAST PAGE OF TEST, AFTER QUESTION 40

- a. 2981.1, 134.75, yes
- b. 3091.1, 103.15, no
- c. 3091.1, 136.61, yes

23. (Reference #22) Using an average fuel burn of 12 gph, would the above load still be within limits after 4.5 hours?

- a. No
- b. Yes

24. (POH 5-10) Compute the landing distance over a 50' obstacle (short field technique). Conditions: 3100 lbs., 30 C (86 F), Runway 17, wind calm, 6,000' pressure altitude.

- a. 1706'
- b. 1172'
- c. 1625'

25. (POH fig 5-5) What airspeed do you fly to climb at V_y at 6,000' pressure altitude at 20 degrees C?

- a. 88 KIAS
- b. 72 KIAS
- c. 80 KIAS

26. (POH Section 5) What would be the time, fuel, and distance required for a normal climb from ABQ (use 5,500' pressure altitude) to 10,000'? Conditions: no wind, 14 C at ABQ. Disregard start, taxi, and runup fuel.

- a. 10 minutes, 3.3 gallons, 16.5 NM
- b. 11 minutes, 3.6 gallons, 18 NM
- c. 9 minutes, 2.7 gallons, 15 NM

27. (POH Section 5) Given the conditions in question #26, (ISA, +10 C, no wind) what would be the total fuel used from the engine start to the top of climb? _____. What would be the total endurance remaining (with a 1-hour reserve) after 3 additional hours of cruise at 2400 RPM and 19" MP? _____.

- a. 6.2 gallons, 3:35
- b. 7.4 gallons, 1:01
- c. 5.6 gallons, 1:59

28. (POH Section 5) Range and endurance figures in the POH are based on

- a. no fuel reserve.
- b. 45 minutes IFR reserves at 45% power.
- c. 30 minutes VFR reserves at 67% power

29. (POH 5-11) What is the stall speed (KIAS) in the landing configuration in a 30 degree bank? (40 degrees flaps, throttle idle, 3100 lbs., assume most aft CG)

- a. 43
- b. 38
- c. 35

30. (POH 7-11) The landing gear system is actuated by an electrically driven hydraulic power pack which operates

- a. only when the gear is in transient.
- b. when the nose gear is off the ground and pressure drops below 1000 PSI.
- c. at all times unless the emergency gear handle is extended.

31. (POH 7-13) The gear warning tone is heard only if the gear is up AND the flaps are extended greater than 25 degrees, AND the throttle is less than 12" manifold pressure.

- a. True
- b. False

32. (POH 7-23) The cowl flaps are used to regulate the flow of cooling air through the engine cowling. They are operated

- a. electrically by a switch below the throttle.
- b. hydraulically by the landing gear power pack.
- c. mechanically by a lever on the control pedestal.

33. (POH 7-35) The pitot static system supplies ram air pressure to the instruments from the wing mounted pitot tube and gets static pressure from

- a. two static ports on either side of the fuselage.
- b. a static port on the rear of the wing mounted pitot tube.
- c. a static wick mounted on the aft edge of the rudder.

34. (POH 7-38) If erroneous instrument readings are suspected to be caused by water or ice in the line to the external static port(s), the

- a. pitot heat should be turned on to evaporate moisture in the static line.
- b. alternate static source valve should be turned on.
- c. aircraft should be banked steeply to empty the water out of the system.

35. (POH 7-25) The auxiliary fuel pump operates in _____ with the engine driven fuel pump.

- a. Series
- b. Parallel

36. (POH 7-36) The wing air inlets at the wing roots provide outside air to

- a. the rear seat vents.
- b. the front seat vents.
- c. the avionics cooling system.

37. (POH 8-11) Should the tires require servicing during a cross-country stop, the correct tire pressures can be found

- a. in the aircraft checklist.
- b. in the Aero Club maintenance binder for the aircraft.
- c. in the POH section 8.

38. (POH Trim Supplement) N9849C is equipped with an optional electric elevator trim system. The maximum altitude loss during an electric trim malfunction should be no more than (placarded)

- a. 152'
- b. 100'
- c. 260'

39. (POH Autopilot Supplement) A Cessna 300A Autopilot is an electric system that operates in

- a. the pitch axis.
- b. the roll axis.
- c. the pitch and roll axis.

40. (POH Autopilot Supplement) The Autopilot can be overpowered:

- a. in any mode, without causing damage to the unit.
- b. in any mode, but it will be damaged by the force.
- c. only after it is turned off with the A/P ON/OFF switch.

NOTE: Complete the Closed Book portion of the EXAM on the Back of the Answer Sheet. List the FIRST five steps for each situation. (You may list additional steps if you desire.) If an emergency procedure is not published for this aircraft, use your best judgment. Ignore fill-in blanks that do not apply to the aircraft. Each answer is worth 4 points. (Average of 5 responses for each of the main areas.)

Item	Weight	Arm	Moment
Basic Empty Weight	1871.1	34.8	65148.32
Pilot		37.0	
Co-Pilot		37.0	
Fuel	75 Gal 450.0	48.0	21600.00
Rear Passenger		74.0	
Rear Passenger		74.0	
Baggage		<u>110.0</u>	
Total	2321.1	<u>37.4</u>	86748.32
Fuel Burn GPH	12	Flight Time	4.8
Fuel (Taxi Climb)	5.6	Total Fuel	63.2
Fuel Remaining	11.8	Time Rem	1.0
Landing Weight	1942	35.3	68546.72

Figure 1