

Questions 1-19 refer to either the C-172N/P POH with 180HP/2550LB STC, unless indicated.

1. Total usable fuel capacity for the C-172N/P with long range tanks is:
 - a. 54 gallons
 - b. 50 gallons
 - c. 62 gallons
 - d. 40 gallons

2. Total fuel capacity for the C-172N/P with long range tanks is:
 - a. 54 gallons
 - b. 43 gallons
 - c. 21.5 gallons
 - d. 50 gallons

3. The maximum certified takeoff weight for the normal category is _____ pounds.

4. The maximum combined weight capacity for baggage areas 1 and 2 is:
 - a. 100 pounds
 - b. 120 pounds
 - c. 170 pounds
 - d. None of the above

5. Maneuvering speeds (KIAS, sea level) are:
2550 _____
2150 _____
1750 _____

6. [C-172P Only] Enter the following speeds (KIAS, sea level):

<u>Vx</u> _____	<u>Vno</u> _____
<u>Vy</u> _____	<u>Vne</u> _____
<u>Vfe (10° flap)</u> _____	<u>Vglide(no flap)</u> _____
<u>Vfe (>10° flap)</u> _____	

7. A gradual loss of RPM and eventual engine roughness may result from:

- Formation of carburetor ice
- Loss of oil pressure
- Low fuel
- Magneto problems

8. If total loss of oil pressure is accompanied by a rise in oil temperature, there is a good reason to suspect:

- The oil pressure gauge is inoperative
- The outside air temperature is too high for the power setting
- An engine failure is imminent
- The mixture is too lean

9. The avionics power switch must be _____ during engine start to:

- ON, ensure proper operation of gauges
- ON, ensure the magnetos are operating
- OFF, prevent electrical fire in the engine compartment
- OFF, prevent possible damage to avionics

10. [C-172N Only] During the run-up magneto check, the RPM drop should not exceed

_____ RPM on either magneto or greater than _____ RPM difference between magnetos.

11. [C-172P Only] Using 10 degrees of flap for takeoff reduces the ground roll and total distance over an obstacle by approximately _____ percent.
- 25
 - 50
 - 5
 - 10
12. When landing in a strong crosswind, use the following procedure for selecting the approach flap setting:
- Always use 30 degrees of flaps
 - Always use 0 degrees of flaps
 - Use the minimum flap setting required for the field length
 - Use 10 degrees of flaps
13. The maximum demonstrated crosswind velocity is _____ knots.
- 25
 - 10
 - 15
 - 12
14. During a balked landing (go around), reduce the flap setting to _____ degrees immediately after full power is applied.
- 0
 - 10
 - 20
 - 30

15. Using the wind component chart, calculate the wind components for the following conditions:

Runway 19; reported wind 240 at 13 knots

- a. 13K headwind, 17K crosswind
- b. 8K headwind, 10K crosswind
- c. 8K tailwind, 10K crosswind
- d. 10k headwind, 9k crosswind

16. [C-172P Only] Calculate the following takeoff ground roll:

Pressure altitude: 1000 Feet

Temp: 30 Degrees C

Flaps: Up

Weight: 2450 Pounds

Wind: 150 Degrees at 12 knots

Runway: 19

- a. 961
- b. 1068
- c. 1175
- d. 855

17. Calculate the following cruise performance:

Weight: 2550 Pounds

Pressure altitude: 6000ft

Temp: 23 Degrees C

BHP: 65%

- a. 2500 RPM, 114 KTAS, 7.1 GPH
- b. 2400 RPM, 110 KTAS, 8.5 GPH
- c. 2500 RPM, 112 KTAS, 8.8 GPH
- d. 2550 RPM, 114 KTAS, 8.8 GPH

18. Calculate the following short field landing ground roll and over 50 foot obstacle distance using:

- Pressure altitude: Sea Level
- Temperature: 30 Degrees C
- Flaps: 30 Degrees
- Weight: 2550lbs
- Wind: 010 degrees at 10 knots
- Runway: 19

- a. 666 and 1518 feet
- b. 908 and 2070 feet
- c. 934 and 2130 feet
- d. 818 and 1943 feet

19. [C-172P Only] Calculate the following weight and balance problem:

	<u>Weight</u>	<u>Moment/1000</u>
Basic Empty Weight	1550	57.26
Fuel (50 Gallons)	_____	_____
Pilot and Front Passenger	340	_____
Rear Passenger	150	_____
Baggage Area 1	30	_____
Baggage Area 2	0	_____
Ramp Weight & Moment	_____	_____
Start/Taxi/Run-Up (2 Gallons)	_____	_____
Takeoff Weight/Moment	_____	_____

- a. Center of gravity TOO FAR AFT; weight within limits
- b. Aircraft within weight/CG limits in UTILITY category
- c. Aircraft is OVERWEIGHT/CG is within limits
- d. Weight and CG IN LIMITS/NORMAL category

Questions 20-37 refer to the C-172R POH with 180HP STC.

20. The engine is a Lycoming IO-360 and rated at what horsepower?

- a. 180HP at 2500 RPM
- b. 160HP at 2700 RPM
- c. 180 HP at 2700 RPM
- d. 160HP at 2500 RPM

21. The fuel capacity is _____ gallons.

- a. 68 total and 62 usable
- b. 56 total and 53 usable
- c. 54 total and 50 usable
- d. 50 total and 50 usable

22. The minimum operating oil level is 6 quarts. What is the maximum sump oil level?

- a. 8 quarts
- b. 9 quarts
- c. 7 quarts
- d. 6 quarts

23. Compute the landing distance (ground roll) for the following conditions:

PA 1000', 10 Degrees C, Headwind 5 knots

- a. 553 feet
- b. 585 feet
- c. 527 feet
- d. 575 feet

24. The maximum combined weight for baggage areas 1 and 2 is:

- a. 150 pounds
- b. 120 pounds
- c. 170 pounds
- d. Not Defined

25. The Magneto Check is accomplished at 1800 RPM. What is the allowed maximum drop per magneto and the maximum difference between magnetos?

- a. 150 RPM max drop; +/- 50 RPM difference between magnetos
- b. 125 RPM max drop; +/- 50 RPM difference between magnetos
- c. 150 RPM max drop; +/- 25 RPM difference between magnetos
- d. 125 RPM max drop; +/- 25 RPM difference between magnetos

26. The battery is rated at:

- a. 12 volts
- b. 60 AMPS
- c. 45 AMPS
- d. 24 Volts

27. The glide ratio for a C-172 is 9:1. This means that at best glide speed, for every 1000 feet of altitude lost, the distance traveled over the ground is? (assume proper configuration, no wind)

- a. 1 NM
- b. 1.5 NM
- c. 2 NM
- d. 2.5 NM

(True-A, False-B)

28. (True/False) - To affect an air start with the propeller stopped, the ignition key must be turned to the start position.

29. (True/False) - Alternator malfunction can only be detected by the low voltage warning light.

30. (True/False) - If a total loss of oil pressure is accompanied by a rise in oil temperature, there is good reason to suspect that engine failure is imminent.

31. (True/False) - Use of alternate air can cause a power loss of up to 10% at full throttle.

32. (True/False) - The maximum certificated weight for takeoff is 2550 LBS.
33. (True/False) - The carburetor heat should be pulled at 1500 RPM.
34. The hydroplane speed (9 times the square root of the tire pressure) for the main wheels is?
- a. 55 KIAS
 - b. 58 KIAS
 - c. 52 KIAS
 - d. 60 KIAS
35. The maximum demonstrated cross wind is:
- a. 20 KIAS
 - b. 15 KIAS
 - c. 16 KIAS
 - d. 12 KIAs
36. To lean to the Recommended Lean:
- a. Lean to 50 degrees rich of Peak EGT.
 - b. Lean until engine runs rough and then enrich 2 full turns of the mixture knob
 - c. Lean to peak EGT
 - d. Do nothing
37. The annunciator panel provides caution and warning messages for:
- a. Fuel quantity and Oil Pressure
 - b. Low Vacuum and Low Voltage
 - c. None of the Above
 - d. Both A and B

For questions 38 & 39, compute the takeoff distance at maximum gross weight with the following conditions (C-172R):

Sea Level 0 Degrees C
2550 lbs 6 KT
Tailwind Grass Surface

38. What is the Ground Roll?

- a. 1118 feet
- b. 1247 feet
- c. 860 feet
- d. 736 feet

39. What is the amount of runway needed to clear a 50 foot obstacle?

- a. 2034 feet
- b. 1594 feet
- c. 1465 feet
- d. 1905 feet