

**C-172N/P**

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

1. Total usable fuel capacity for the C-172N 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 with long range tanks is:
  - a. 54 gallons
  - b. 43 gallons
  - c. 21.5 gallons
  - d. 50 gallons
  
3. The maximum certified weight in 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) are:  
  
2550 pounds \_\_\_\_\_  
2150 pounds \_\_\_\_\_  
1750 pounds \_\_\_\_\_
  
6. Enter the following speeds (KIAS, sea level):  
  
 $V_X$  \_\_\_\_\_                       $V_{NO}$  \_\_\_\_\_  
 $V_Y$  \_\_\_\_\_                       $V_{NE}$  \_\_\_\_\_  
 $V_{FE}$  \_\_\_\_\_                       $V_{GLIDE}$  \_\_\_\_\_ (flaps up)

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. During the run-up magneto check, the RPM drop should not exceed \_\_\_\_\_ RPM on either magneto or greater than \_\_\_\_\_ RPM difference between magnetos.
11. Using 10° wing flaps 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:

- a. Always use 30 degree flaps
- b. Always use 0 degree flaps
- c. Use the minimum flap setting required for the field length
- d. Use 10 degree flaps

13. The maximum demonstrated crosswind velocity is \_\_\_\_\_ knots.

- a. 25
- b. 10
- c. 15
- d. 12

14. During a balked landing (go around), reduce the flap setting to \_\_\_\_\_ degrees immediately after full power is applied.

- a. 0
- b. 10
- c. 20
- d. 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. Calculate the following takeoff ground roll:

Pressure altitude: 1000 feet  
Temp: 30° 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: 6000 feet  
 Temperature: 23° 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° C  
 Flaps: 30 degrees  
 Weight: 2550 pounds  
 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. 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

**T-41A**

Questions 20 - 25 refer to C-172F POH or T-41A Flight Manual

20. The Normal Category gross weight is \_\_\_\_\_ pounds.
21. The flap extension speed ( $V_{FE}$ ) is \_\_\_\_\_ MPH.
22. Total usable fuel is \_\_\_\_\_ gallons (standard tanks):
- a. 40
  - b. 36
  - c. 39
  - d. 53
23. The oil capacity is \_\_\_\_\_ quarts and the engine should not be operated with less than \_\_\_\_\_ quarts.
- a. 7/5
  - b. 8/5
  - c. 8/6
  - d. 6/4
24. The correct fuel management procedure for a VFR flight with a climb to cruising altitude of 5500 feet is:
- a. Fuel selector on BOTH at all times
  - b. Fuel selector on BOTH for takeoff and climb
  - c. Fuel selector set to LEFT or RIGHT during cruise
  - d. Both b and c above are correct
25. Enter the following speeds (MPH-sea level)
- |             |                              |
|-------------|------------------------------|
| $V_X$ _____ | $V_{NO}$ _____               |
| $V_Y$ _____ | $V_{NE}$ _____               |
| $V_A$ _____ | $V_{GLIDE}$ (flaps up) _____ |