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):

Vx _____	Vno _____
Vy _____	Vne _____
Vfe (10˚ flap) _____	Vglide(no flap) _____
Vfe (>10˚ flap) _____	

7. A gradual loss of RPM and eventual engine roughness may result from:
   a. Formation of carburetor ice
   b. Loss of oil pressure
   c. Low fuel
   d. Magneto problems

8. If total loss of oil pressure is accompanied by a rise in oil temperature, there is a good reason to suspect:
   a. The oil pressure gauge is inoperative
   b. The outside air temperature is too high for the power setting
   c. An engine failure is imminent
   d. The mixture is too lean

9. The avionics power switch must be _____ during engine start to:
   a. ON, ensure proper operation of gauges
   b. ON, ensure the magnetos are operating
   c. OFF, prevent electrical fire in the engine compartment
   d. 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.
    a. 25
    b. 50
    c. 5
    d. 10

12. When landing in a strong crosswind, use the following procedure for selecting the approach flap setting:
    a. Always use 30 degrees of flaps
    b. Always use 0 degrees of flaps
    c. Use the minimum flap setting required for the field length
    d. Use 10 degrees of 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. [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:

	Weight	Moment/1000
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 20-25 refer to C-172F POH or T-41A Flight Manual.

20. The Normal Category gross weight is _____ pounds.

21. The flap extension speed (Vfe) 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.

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 LEFT or RIGHT during cruise
d. Both b and c above are correct

25. Enter the following speeds (MPH-sea level)

Vx [C-172F]_____	Vno [T-41A]_____
Vy [C-172F]_____	Vne [T-41A]_____
Va [T-41A]_____	Vglide [T-41A] (no flap)_____

Questions 26-45 refer to the C-172R POH with 180HP STC.

26. 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

27. 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

28. 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

29. 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

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

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

31. 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

32. The battery is rated at:

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

33. 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)

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

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

36. (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.

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

38. (True/False) - The maximum certificated weight for takeoff is 2550 LBS.

39. (True/False) - The carburetor heat should be pulled at 1500 RPM.

40. 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

41. The maximum demonstrated cross wind is:

a. 20 KIAS
b. 15 KIAS
c. 16 KIAS
d. 12 KIAs

42. 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

43. 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 44 & 45, 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	

44. What is the Ground Roll?

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

45. 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