

## USAF Aero Club Aircraft Test

### CESSNA-172

*For the following questions, you will need to refer to the Pilots Information Manuals for the 172Q, unless otherwise noted. Penn Yan is very vague on performance figures for the conversions, however, for “TRAINING & REFERENCE” purposes “ONLY” we have determined that the 172Q manual will be more beneficial than Penn Yan.*

**Provide your answers on AF Form 1584C (Knowledge Exam Record) located on last two pages.**

1. The engine is a Lycoming O-360 and rated at what horsepower?
2. Which fuel capacities are correct for N73813?
  - a. 68 total and 62 usable
  - b. 43 total and 40 usable
  - c. 54 total and 50 usable
3. Recommended fuel grade is 100LL and the color is?
  - a. Green
  - b. Blue
  - c. Red
4. (True/False) - Alternate fuel grade is 100 and Red in color.
5. (True/False) - The grade of oil for summer and winter is 40 weight.
6. Minimum operating oil level for the 180 HP is 5 quarts. What is the maximum sump oil level?
7. The first indication of carburetor ice is.
  - a. Ice forming on wings
  - b. Snow sticking to tires.
  - c. Loss of RPM
8. (True/False) - The stall warning system is a pneumatic type system.
9. (True/False) - Alternator malfunction can only be detected by the low voltage warning light.

10. During flight, if the pitot-tube becomes clogged with ice, which of the following instruments would be affected?
- Airspeed indicator only.
  - Airspeed indicator and the altimeter.
  - Altimeter only.

11. The initial procedures for a "Go-Around" are:

- Carb heat hot, flaps to 20 degrees, full throttle
- Full throttle, carb heat cold, flaps to 20 degrees
- Full throttle, flaps to 20 degrees, carb heat cold

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

13. (True/False) – The stall warning system can be checked by sucking on the vent opening.

(For answers 14 & 15) Compute the takeoff distance at maximum gross weight with the following conditions:

Sea level  
0 degrees C.  
50' obstacle  
Tailwind – 6 kts

14. What is the ground Roll?

15. To clear 50' obstacle?

(For answers 16, 17 & 18) What are the time, fuel, and distance to climb from a P.A of 1000 to a P.A. of 7000 feet?

16. Time?

17. Fuel?

18. Distance?

(For answers 19, 20, 21, 22 and 23) What are the power setting, fuel consumption, true airspeed, range, and endurance for the following conditions?

65% Power, 6,000' PA, 50 gals usable fuel, full fuel with 45 minute reserve, Standard Temperature.

19. RPM?

20. GPH?
21. TAS?
22. Range nm.?
23. Endurance hrs?
24. Compute the landing distance (ground roll) for the following conditions?

PA 1000'  
 10 degrees C.  
 Headwind - 5 kts

**Supplement for the C-172SP.**

25. What is the maximum fuel allowed for this Weight/Balance?  
**NOTE:** Use N435SP data

Empty Weight.....	1715.6 lbs.
Empty Moment.....	68520
Maximum Takeoff Weight.....	2550 lbs.
Pilot & Front Seat Passenger.....	400 lbs.
Rear Passenger.....	200 lbs.
Baggage Area "1".....	75 lbs.
Usable Fuel.....	53 gals.

26. (True/False) – According to the POH, the auxiliary fuel pump should be used for start up, except for a flooded or warm engine.
27. (True/False) – The fuel shut off is located on the fuel selector valve.
28. (True/False) – The HSI is a vacuum instrument.
29. If both vacuum pumps fail, which instrument(s) become inoperative:
  - A. HSI
  - B. Attitude indicator
  - C. Attitude indicator and Directional Gyro
  - D. Attitude indicator and HSI
30. (True/False) – The compass card can be manually adjusted in the SLAVE position on the Slaving Meter.

## USAF AERO CLUB KNOWLEDGE EXAM RECORD

Name: \_\_\_\_\_

Date Taken: \_\_\_\_\_

Type Exam:  Standardization     Instrument     Make & Model 172     Recurrency

Initial Solo     Solo Cross Country     Other: \_\_\_\_\_

Raw Score (%): \_\_\_\_\_

Date Corrected to 100%: \_\_\_\_\_

I certify all items were thoroughly debriefed and all questions answered

Pilot's Signature

Instructor's Signature

Pilot's Signature					Instructor's Signature								
	T	F	(A)	(B)	(C)	(D)		T	F	(A)	(B)	(C)	(D)
1.	(A)	(B)	(C)	(D)			26.	(A)	(B)	(C)	(D)		
2.	(A)	(B)	(C)	(D)			27.	(A)	(B)	(C)	(D)		
3.	(A)	(B)	(C)	(D)			28.	(A)	(B)	(C)	(D)		
4.	(A)	(B)	(C)	(D)			29.	(A)	(B)	(C)	(D)		
5.	(A)	(B)	(C)	(D)			30.	(A)	(B)	(C)	(D)		
6.	(A)	(B)	(C)	(D)			31.	(A)	(B)	(C)	(D)		
7.	(A)	(B)	(C)	(D)			32.	(A)	(B)	(C)	(D)		
8.	(A)	(B)	(C)	(D)			33.	(A)	(B)	(C)	(D)		
9.	(A)	(B)	(C)	(D)			34.	(A)	(B)	(C)	(D)		
10.	(A)	(B)	(C)	(D)			35.	(A)	(B)	(C)	(D)		
11.	(A)	(B)	(C)	(D)			36.	(A)	(B)	(C)	(D)		
12.	(A)	(B)	(C)	(D)			37.	(A)	(B)	(C)	(D)		
13.	(A)	(B)	(C)	(D)			38.	(A)	(B)	(C)	(D)		
14.	(A)	(B)	(C)	(D)			39.	(A)	(B)	(C)	(D)		
15.	(A)	(B)	(C)	(D)			40.	(A)	(B)	(C)	(D)		
16.	(A)	(B)	(C)	(D)			41.	(A)	(B)	(C)	(D)		
17.	(A)	(B)	(C)	(D)			42.	(A)	(B)	(C)	(D)		
18.	(A)	(B)	(C)	(D)			43.	(A)	(B)	(C)	(D)		
19.	(A)	(B)	(C)	(D)			44.	(A)	(B)	(C)	(D)		
20.	(A)	(B)	(C)	(D)			45.	(A)	(B)	(C)	(D)		
21.	(A)	(B)	(C)	(D)			46.	(A)	(B)	(C)	(D)		
22.	(A)	(B)	(C)	(D)			47.	(A)	(B)	(C)	(D)		
23.	(A)	(B)	(C)	(D)			48.	(A)	(B)	(C)	(D)		
24.	(A)	(B)	(C)	(D)			49.	(A)	(B)	(C)	(D)		
25.	(A)	(B)	(C)	(D)			50.	(A)	(B)	(C)	(D)		

## CLOSED BOOK EXAM

Write the Emergency Action Procedures for the following:

### Engine Fire During Start

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

### Engine Fire In Flight

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

### Engine Failure In Flight (Cruise)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

### Emergency Approach and Landing

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

Fill in all the applicable blanks.

1.  $V_A$  \_\_\_\_\_ Lbs
2.  $V_A$  \_\_\_\_\_ Lbs
3.  $V_A$  \_\_\_\_\_ Lbs
4.  $V_{FE}$  \_\_\_\_\_ (First Extension Increment)
5.  $V_{LO}$  \_\_\_\_\_ Retraction (Retractable Gear Aircraft Only)
6.  $V_{LO}$  \_\_\_\_\_ Extension (Retractable Gear Aircraft Only)
7. Best Glide Speed @ Maximum Gross Weight \_\_\_\_\_