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References: Cessna 172R, S, and N Pilot's Operating Handbooks and Information Manuals with applicable STC supplements, and RAFA SOP, April 2008.

## CESSNA 172S and 172R

# Use the C-172R (180hp) and C-172S Information Manuals for this first section (12 questions)

- 1. As described in Section 3, a failure of the engine driven fuel pump will be evidenced by a sudden reduction in the fuel flow indication. Immediately following will be:
  - a. An increase in RPM
- c. A loss of engine power
- b. An increase in fuel pressure d. Normal engine operation
- 2. Regarding the C-172R and S models, what provides the source of vacuum for the aircraft's attitude and heading indicators?
  - a. An electrically driven pump c. A single engine driven pump
  - b. A vacuum tap off the induction d. 2-engine driven pumps

3. Assuming a 34 gallon usable fuel load in the C-172S, take a look at Section 5 of the Information Manual (Cruise Performance chart) and determine the <u>total</u> (incl reserves) endurance (hours) one would have under the following conditions: 2550 gross wt, 4000 ft press alt, std temp, 61% BHP.

a.	4 hours	c.	2.3 hours
b.	3 hours	d.	6 hours

4. When starting a warm engine, what procedure in the "Starting Engine" checklist should you <u>omit</u>?

a.	Mixture to Idle cut off	c. Throttle Open <sup>1</sup> / <sub>4</sub> inch
b.	Priming procedure	d. Ignition switch to Start

5. Soft or rough field takeoffs are performed with a flap setting of:

a.	Whatever feels right	c.	0°
b.	20°	d.	10°

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6. What is the Utility category maximum takeoff weight?

a. 2550 lbs b. 2150 lbs c. 2200 lbs d. 2558 lbs

7. One chart in Section 5 of the C172 S and R (180hp) Information Manual depicts "Short Field Takeoff Distance at 2550 Pounds". This takeoff distance information is based on lifting off at 51 KIAS and maintaining what airspeed at 50 feet?:

a.	. 59 KIAS	c. 62 KIAS
b.	. 51 KIAS	d. 56 KIAS

8. What are the Vy and Vx airspeeds at sea level?

a.	74 / 62 KIAS	с.	100 / 65 KIAS
b.	76 / 59 KIAS	d.	67 / 55 KIAS

9. The Emergency Procedures, Section 3, shows "Bold Faced" items in several of the checklist areas to identify initial action items to be memorized. With this, the first action a pilot must take during an engine fire in flight is:

a.	Mixture – Idle Cut Off	c. Declare an Emergency
b.	Master Switch - Off	d. Forced Landing - Execute

10. If both fuel tanks are filled to bottom of the filler neck for the S and R models, what will be the total reduced fuel capacity?

a.	65 gallons	c.	53 gallons
b.	35 gallons	d.	40 gallons

11. The indicated speed, Vso, is the stall velocity in the "dirty" landing configuration and is found on the airspeed indicator at the:

a. Bottom of white arc and 40 KIAS	c. Bottom of green arc and 48 KIAS
b. Bottom of green arc and 40 KIAS	d. Bottom of white arc and 55 KIAS

- 12. As described in Section 7 of the Information Manual, the 28 volt, 60 amp electrical system consists of a split primary bus, each connected to an avionics bus via:
  - c. Dual avionics master switches a. A magneto b. A single avionics master switch
    - d. An avionics relay/thing-a-ma-gig

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## **CESSNA 172N Use the C-172N Pilot's Operating Handbook for this section below (9 questions)**

13. In performing a Short Field Takeoff, what is the total takeoff distance required to clear a 50-foot obstacle at maximum gross weight, flaps up, paved level dry runway, proper leaning, pressure altitude of 4000 ft, temperature 30°C, and a 18 knot headwind?

a.	1868 ft	c.	1144 / 2101 ft
b.	600 / 1350 ft	d.	865 / 1525 ft

Calculation: Total distance

14. As shown in the Normal Procedures section, the final approach airspeeds (KIAS) with flaps up and down for a Normal Landing are:

a.	60-70 / 55-65	с.	50-60 / 65-70
b.	55-65 / 60-70	d.	65-75 / 60-70

- 15. FAR Part 91.205 dictates the minimum equipment and instruments required for flight. Cessna will add to these minimum equipment requirements as shown in the POH Sect. 6, WT/Bal.-Equipment List. So, does Cessna require the Ammeter to be operable for flight?
  - a. No, you could fly VFR if you wanted to...
  - b. Yes; however, if you placarded that puppy, then you could fly
  - c. No, the gauge is not necessary
  - d. Yes; you cannot fly with an inoperable ammeter

16. The indicated zero-bank stall speeds at max gross weight and forward CG with full flaps and without flaps are:

a.	44 KIAS / 33 KIAS	c. 41 KIAS / 47 KIAS
b.	55 KIAS / 35 KIAS	d. 40 KIAS / 30 KIAS

17. As defined in Section 7, the independent hydraulic reservoirs/master cylinders for the brakes on a C-172 are located:

a.	on the forward firewall	c.	adjacent to the aircraft's battery
b.	in the tail section	d.	behind the pilot rudder/brake pedals

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18. What is maneuvering speed (V<sub>A</sub>) at 2300 pounds and 1600 pounds, respectively? (Limitation Section 2)

a.	97 & 80 KIAS	c.	65 KIAS with aft CG
b.	96 & 80 KIAS	d.	97 KIAS for both weights

19. What is the best glide speed for the C-172N model with flaps up?

a.	75 KIAS	c.	80 MPH & 85 MPH
b.	60 KIAS & 65 KIAS	d.	65 KIAS

20. Determine the weight and balance given the following information:

Item	<u>Weight</u>	Arm	Moment	
Basic Aircraft	1474		59791.76	
Fuel (40 gal)		47.9		
Pilot & passenger	410	<u>37.0</u>		
Rear passenger	205	<u>73.0</u>		
				CG =
Totals:				
a. Within weight limits, within CG			c. Over weight limits, within CG	
b. Over weight limi	ts, outside fwd	CG	d. Within weight limit	ts, outside fwd CG

21. In the event of a go-around or balked landing, the first action for the pilot to take is to: (Normal Procedures Section 4)

a.	Retract flaps to 20 deg	c. Push throttle Full Open
b.	Announce a "go-around"	d. Push carburetor heat knob In

a. The fuel cap

## **<u>Common to more than one model (5 questions)</u>**

22. Look at the SOP, Section 4. When returning to RAFA, during fueling, the ground wire will be connected to:

- c. Any exhaust pipe
- b. Main landing gear tire d. One of the wing tie-down points

23. What are the maximum horsepower ratings for the C-172R/S, C-172N, respectively?

a.	180, 160	c.	160 for each model
b.	185, 165,	d.	140, 130

24. Check out the later model "Landing Distance" tables. How does operations on a dry grass runway affect the landing distance?

- a. There is no change at all c. Distances decrease slightly
- b. Distances increase significantly d. Distances decrease if using MIL-H-5606 brake fluid

25. In the event of a cabin fire, the emergency procedure first mandates the Master Switch-OFF. The next step would be to: (look at the later model information manuals!)

a. Open all windows and vent c. Fuel shut off valve-OFF b. Vents/Cabin Air/Heat – Closed d. Call ATC