

# **AV-ED FLIGHT SCHOOL, INC.**

## Seminole Renter Exam

Pilot \_\_\_\_\_

Date \_\_\_\_ / \_\_\_\_ / \_\_\_\_

### Engines and Propellers

- 1) Describe the engines on the PA-44-180.
  
- 2) List the numerical designation of the engines:
  - a) Left:
  
  - b) Right:
  - c) Why are they different?
  
- 3) What kind of propellers does the PA-44 have?
  
- 4) Why won't the propellers feather below 950 RPM?
  
- 5) Describe how the propellers feather and un-feather in the Seminole.
  
- 6) What is Zero thrust power setting?
  
- 7) Does the PA-44 have a critical engine? If not, why?

### Fuel System

- 1) How many fuel tanks are there? \_\_\_\_\_
- 2) What is the fuel capacity of each tank? \_\_\_\_\_
- 3) What is the total fuel capacity? \_\_\_\_\_
- 4) What is the correct fuel grade? \_\_\_\_\_ Color? \_\_\_\_\_
- 5) How many fuel drains are there and where are they located? \_\_\_\_\_  
\_\_\_\_\_
- 6) How many fuel pumps are there? \_\_\_\_\_
- 7) Describe the steps to cross feed from the right tank to the left engine:
  
- 8) When should a fuel sample be taken?

### Oil System

- 1) What is the minimum oil level? \_\_\_\_\_ Max level? \_\_\_\_\_ Normal level? \_\_\_\_\_
- 2) What is the recommended grade of oil? \_\_\_\_\_

Electrical System

- 1) What is the voltage of the PA-44 electrical system? \_\_\_\_\_
- 2) What is the voltage and rating of the PA-44 battery? \_\_\_\_\_
- 3) What is the rating of the engine driven alternators? \_\_\_\_\_
- 4) Describe the purpose and the rating of the over-voltage relay: \_\_\_\_\_
  
- 5) How can you tell if the PA-44 has a 12-volt battery? \_\_\_\_\_

Weight and Balance

- 1) What is the aircraft maximum gross weight? \_\_\_\_\_
- 2) What is the aircraft maximum gross takeoff weight? \_\_\_\_\_
- 3) What is the aircraft maximum landing weight? \_\_\_\_\_
- 4) What is the aircraft basic empty weight? \_\_\_\_\_
- 5) What is the weight of the fuel? \_\_\_\_\_
- 6) What is the aircraft useful load? \_\_\_\_\_
- 7) What is the aircraft payload? \_\_\_\_\_
- 8) Determine if the aircraft is within the weight and balance limitations, given the following conditions: Full fuel; Front passengers = 340 lbs.; rear passengers = 150 lbs.; baggage = 20 lbs.; YES / NO                      Calculated CG? \_\_\_\_\_

Airspeeds:

List all the V speeds and their definitions:

KIAS	Definition
Vso	
Vmca	
Vs	
Vr	
Vx	
Vxse	
Vsse	
Vy	
Vyse	
Vfe	
Vlo up	
Vlo down	
Vle	
Vno	
Vne	
Va (3800 lbs.)	
Va (2700 lbs.)	

- 1) What is the maximum demonstrated crosswind velocity? \_\_\_\_\_
- 2) What is the normal final approach speed? \_\_\_\_\_ A/C configuration? \_\_\_\_\_
- 3) What is the single engine final approach speed? \_\_\_\_\_ A/C configuration? \_\_\_\_\_
- 4) What is the short field approach speed? \_\_\_\_\_ A/C configuration? \_\_\_\_\_

- 5) Why are there two stall warning tabs and which tab does what?
  - a) Inner:
  - b) Outer:

#### Landing Gear and Hydraulic System:

- 1) List the three times the landing gear warning horn will sound.
- 2) Where is the landing gear hydraulic reservoir?
- 3) Where is the brake hydraulic reservoir?
- 4) What is the correct tire pressures and strut dimensions:
  - a) Nose:
  - b) Mains:

#### Heater and Anti-Ice Systems

- 1) What type of heater system does the PA-44 have and how do you operate the heater?
- 2) How much fuel does the heater burn and from which tank is the fuel supplied?
- 3) What type of precautions must be taken on heater shutdown?
- 4) Does the PA-44 have any anti-ice or de-ice protection?

#### Emergency Procedures:

- 1) What is the emergency gear extension procedure?
- 2) How would you detect carb ice, and what action should be taken to remove/prevent the carb ice?
- 3) How would you detect an alternator failure and what action would you take?

- 4) What action should be taken for an engine failure during flight?
- 5) What action should you take if you noticed high oil temperature during flight?
- 6) What action would you take if you noticed low oil pressure while in flight?
- 7) Describe the go-around procedure for the Seminole:
- 8) Describe the emergency decent procedure:

Aircraft Performance:

- 1) What is the power setting, fuel consumption, and true airspeed for cruising at 75% power at 6,500 feet with standard temperature?  
MP \_\_\_\_\_ RPM \_\_\_\_\_ Fuel Used \_\_\_\_\_ TAS \_\_\_\_\_
- 2) What is the takeoff distance to clear a 50 foot obstacle when using maximum performance procedures with the aircraft at gross weight into a 6 knot headwind under the following conditions:  
Sea Level, Standard Temp: \_\_\_\_\_  
Pressure Alt = 5,000 ft., Temp = 90 F: \_\_\_\_\_
- 3) What is the accelerate-stop distance when using maximum performance procedures with the aircraft at max gross weight, while operating at a density altitude of 3,000 feet and a 5 knot tailwind?  
Standard brakes: \_\_\_\_\_ Heavy duty brakes: \_\_\_\_\_

Reviewed by: \_\_\_\_\_ date \_\_\_\_ / \_\_\_\_ / \_\_\_\_

(Make copy for renter)