



## Pre-Solo Written Exam

Student: \_\_\_\_\_

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

### General Operations

1. What endorsements are required to be in your logbook prior to solo flight?
2. What personal documents must be in your possession during solo flight?
3. What aircraft certificates and documents must be on board when you are flying solo?
4. How many passengers can you carry as a student pilot?
5. Who has the final authority and responsibility for the operation of the aircraft when you are flying solo?
6. What is the minimum fuel reserve for day VFR flight?
7. What are wing-tip vortices (wake turbulence)? In which aircraft configuration are they greatest? Describe the proper avoidance.
8. What is wind-shear? Why is it hazardous and where might you encounter it?



9. Discuss the right-of-way rules regarding overtaking another aircraft, approaching another aircraft head-on and another aircraft converging from the side.
  
10. Who has the right-of-way when two aircraft are on final approach to land at the same time?
  
11. Discuss the regulations regarding the consumption of alcohol and operating an aircraft.
  
12. Is there ever an instance when you may deviate from a Federal Aviation Regulation (FAR)?
  
13. Except when necessary for takeoffs and landings, what are the minimum safe altitudes when flying over congested and other-than-congested areas?
  
14. During an ignition check, what is the maximum allowable RPM drop?
  
15. When is a go-around appropriate?
  
16. Describe the go-around procedure.
  
17. What general steps should you follow an engine failure in flight?
  
18. During flight, you begin to see a gradual decrease in power. What is a likely cause and what should be done to remedy the situation?



19. What altitudes should you use when operating VFR in level cruising flight at more than 3000 feet AGL and what determines those altitudes?
  
20. What is the emergency frequency?
  
21. Draw an airport traffic pattern, labeling each leg and the proper entry and departure points. Which turn direction is standard for an airport traffic pattern?

### **Aircraft Equipment / Limitations**

1. List the minimum equipment that must be working properly in your aircraft for day VFR flight.

2. Fill in the V-speed definitions and the corresponding speed for your training airplane.

Speed KIAS or MPH (Circle)

$V_{SO}$	_____	$V_{NO}$	_____
$V_X$	_____	$V_{NE}$	_____
$V_Y$	_____	$V_A$	_____

3. What is the best glide speed for your training airplane?
  
4. What grade or grades of fuel can be safely used in your training airplane?
  
5. What are the minimum and maximum oil capacities for your training airplane?



6. Under what circumstances should you use carburetor heat?
  
7. If during flight you experience carburetor ice and full carburetor heat is applied; what changes in engine performance would you expect?
  
8. Under what circumstances could a spin occur in your aircraft?
  
9. Describe the spin recovery procedures for your training aircraft.

### **Aircraft Performance**

Aircraft Manufacturer	_____	Aircraft Max Gross Weight	_____
Aircraft Model	_____	Aircraft Empty Weight	_____
Aircraft N Number	_____	Aircraft Useful Load	_____

Enter the current weight and balance information for your training aircraft and then calculate the weight and balance for the conditions given. Current Weight and Balance can be found in the aircraft.

Conditions: Full Fuel, 180 lb. Pilot, 180 lb. Passenger, 10 lb. Baggage  
If this is over maximum gross weight or out of CG range, alter the load to correct the problem.

### **Airport Operations / Airspace**



1. What are the traffic patterns for each runway at your home airport? What is traffic pattern altitude at your home airport (ft. MSL)?
2. How do you enter and exit the traffic pattern at your airport? What radio communications are required?
3. Discuss airspace at and around Cameron Park Airport and around Rancho Murrieta Airport?
4. Describe how you would approach and enter the traffic pattern at an uncontrolled airport.
5. What radio calls are recommended as you approach, enter and fly the traffic pattern at an uncontrolled airport?
6. What is CTAF? Explain the CTAF procedures at your home airport.
7. How can you tell if a runway is closed?
8. Draw the pavement marking requiring you to stop before entering a runway.
9. What is a TFR? Where do you information on the presence and status of TFRs?
10. Provide visibility and cloud clearance requirements for the following airspace:  
Class E  
  
Class G



## Risk Management

Factors That Affect the Safety of Flight - PAVE

P \_\_\_\_\_ A \_\_\_\_\_ V \_\_\_\_\_ E \_\_\_\_\_

Pilot Personal Checklist - IMSAFE

I \_\_\_\_\_ M \_\_\_\_\_ S \_\_\_\_\_ A \_\_\_\_\_ F \_\_\_\_\_ E \_\_\_\_\_

Who is responsible for determining that the aircraft is safe (and legal) for flight?

Describe the aircraft pre-flight procedure? What items are you checking for?

Describe the information pertaining to the flight that the pilot is legally obligated to become familiar with?

Describe your go/no-go decision process in detail. Note the tools and resources you use.

## Emergency Procedures

Describe the steps you would take if you have a rough running engine/partial power in flight.

Describe the steps you would take if you have an engine failure in flight.

Describe the steps you would take if you have an engine fire during start up.



Describe the steps you would take if you have an engine fire during flight.

Describe the steps you would take if you have an electrical fire during flight.

What do you do if the canopy (Evektor) or door (Cherokee) becomes unlatched during takeoff or during flight?

How will you know if you have an electrical failure during flight? What do you do?

**Light Sport Specific Questions** (Please complete if you are an Light Sport applicant.)

1. The maximum gross weight of an LSA is \_\_\_\_\_.
2. The maximum number of passengers a sport can carry is \_\_\_\_\_.
3. Can a Light Sport Aircraft have an inflight adjustable propeller?
4. Can a Light Sport Aircraft be flown at night?
5. What is the maximum altitude a light sport aircraft can be flown at by a Light Sport pilot?



**Student / Instructor Review**

Student Signature \_\_\_\_\_ Date \_\_\_\_\_

Instructor Signature \_\_\_\_\_ Date \_\_\_\_\_