

1. Identify the aerodynamic forces that opposes the rearward component of weight in a climb?
2. What relative airspeed power, and angle of attack condition produce the most noticeable left-turning, tendencies that are common to single-engine, propeller-driven aircraft?
3. Name two design elements that can be used to help offset left-turning tendencies?
4. All else being equal, will two aerodynamically identical aircraft with different weights be able to glide the same distance over the ground? If so, how can this be accomplished and why?
5. What causes an airplane to turn?
6. If angle of bank and altitude are held constant, what can be done to increase the rate of turn?
7. True/False. Maneuvering speed increases with a decrease in weight?

8. The total mechanical energy of an airplane in flight is the sum of what two types of energy?

9. Why is flying on the backside of the power curve discouraged?

10. Which is the correct action to take if you are too low on an approach to landing and your airspeed is too slow?

Increase the pitch attitude and add power.

Add power and decrease the pitch attitude slightly

Increase the pitch attitude and maintain the power setting.

11. When below the glide path and flying at an excessive airspeed, what is the status of the three energy states?

End of Section C

## SPIN RECOVERY

1. Throttle - Idle
2. Ailerons - Neutral
3. Rudder - Opposite direction of rotation
4. Elevator - Neutral

End of section B

1. Select the true statement regarding the four forces of flight.

During accelerated flight, thrust and drag are equal.

The four forces are in equilibrium during unaccelerated flight.

In straight-and-level unaccelerated flight, all four forces are equal in magnitude.

2. Refer to the following illustration and identify the aerodynamic terms associated with the airfoil.

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3. Describe how Newton's laws of motion and Bernoulli's principle explain the generation of lift by an airfoil.

4. True/False. As airspeed increases, the angle of attack at which an airfoil stalls also increases.

5. Determine the aspect ratio of the following planes.

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6. Identify three methods you can use to control lift during flight.

7. Will the wing's angle of attack increase or decrease when you lower trailing edge flaps?

8. Is it more desirable for the wing root or the wing tips to stall first and why?
9. List the three forms of parasite drag and provide examples of aircraft features that reduce parasite drag?
10. Explain why induced drag increases as airspeed decreases?
11. The reduction in induced drag due to ground effect is most noticeable when the airplane is within what distance from the earth's surface?

End of Section A