

Empire Aviation

Lake Ridge Airport
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PRIVATE PILOT GROUND SCHOOL

DENSITY ALTITUDE PRESSURE ALTITUDE QUIZ

NAME: _____

DATE: _____

1. What are the standard temperature and pressure values for sea level?
 - a) 15°C and 29.92"Hg
 - b) 59°C and 1,013.2 millibars
 - c) 59°C and 29.92 millibars
2. What effect if any, does high humidity have on aircraft performance?
 - a) It increases performance.
 - b) It decreases performance.
 - c) It has no effect on performance.
3. Which factor would tend to increase the density altitude at a given airport?
 - a) An increase in barometric pressure.
 - b) An increase in ambient temperature.
 - c) A decrease in relative humidity.
4. What effect does high density altitude, as compared to low density altitude, have on propeller efficiency and why?
 - a) Efficiency is increased due to less friction on the propeller blades.
 - b) Efficiency is reduced because the propeller exerts less force at high density altitudes than at low density altitudes.
 - c) Efficiency is reduced due to the increased force of the propeller in the thinner air.
5. What effect does high density altitude have on aircraft performance?
 - a) It increases engine performance.
 - b) It reduces climb performance.
 - c) It increases takeoff performance.
6. Which combination of atmospheric conditions will reduce aircraft takeoff and climb performance?
 - a) Low temperature, low relative humidity, and low density altitude.
 - b) High temperature, low relative humidity, and low density altitude.
 - c) High temperature, high relative humidity, and high density altitude.
7. If the outside air temperature (OAT) at a given altitude is warmer than standard, the density altitude is
 - a) Equal to pressure altitude.
 - b) Lower than pressure altitude.
 - c) Higher than pressure altitude.
8. Determine the density altitude for these conditions: Altimeter setting 30.35"Hg, Runway temperature +25°F, Airport elevation 3,894 ft. MSL
 - a) 2,000 feet MSL.
 - b) 2,900 feet MSL.
 - c) 3,500 feet MSL.
9. What is the effect of a temperature increase from 30 to 50°F on the density altitude if the pressure remains at 3,000 feet MSL?
 - a) 900 foot increase.
 - b) 1,100 foot decrease.
 - c) 1,300 foot increase.
10. Determine the pressure altitude at an airport that is 3,563 feet MSL with an altimeter setting of 29.96"Hg.
 - a) 3,527 feet MSL
 - b) 3,556 feet MSL
 - c) 3,639 feet MSL
11. What is the effect of a temperature decrease and a pressure altitude increase on the density altitude from 90°F and 1,250 feet pressure altitude to 60°F and 1,750 feet pressure altitude?
 - a) 500 foot increase.
 - b) 1,300 foot decrease.
 - c) 1,300 foot increase.

12. Determine the pressure altitude at an airport that is 1,386 feet MSL with an altimeter setting of 29.97.
 - a) 1,341 feet MSL
 - b) 1,451 feet MSL
 - c) 1,562 feet MSL
13. What is the effect of a temperature increase from 25° to 50°F on the density altitude if the pressure altitude remains at 5,000 feet?
 - a) 1,200 foot increase
 - b) 1,400 foot increase
 - c) 1,650 foot increase
14. Determine the pressure altitude with an indicated altitude of 1,380 feet MSL with an altimeter setting of 28.22"Hg., at standard temperature.
 - a) 1,250 feet MSL
 - b) 1,373 feet MSL
 - c) 3,010 feet MSL
15. Determine the density altitude for these conditions; Altimeter setting: 29.25"Hg., Runway temperature +81°F Airport elevation 5,250 ft. MSL.