

Name _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 1) Rear brakes do less work during hard braking than the front brakes because _____. 1) _____
A) the rear brakes are larger
B) the vehicle weight transfers forward
C) the rear tires have less traction
D) Both B and C are correct
- 2) Technician A says that disc brake rotor may have internal passages for cooling. Technician B says that the faster the vehicle is traveling when the brakes are applied, the greater the amount of heat created in the brake system. Which technician is correct? 2) _____
A) Technician A only
B) Technician B only
C) Both technicians
D) Neither technician
- 3) A 3000 pound vehicle is calculated to have a kinetic energy of 90,000 ft-lb at 28 mph. If the speed of the vehicle remains the same and the weight is doubled to 6000 pounds, what will happen to the calculated kinetic energy? 3) _____
A) It will remain the same.
B) It will increase proportionally ($\times 2$), to 180,000 ft-lb.
C) It will increase by the square ($\times 4$), to 360,000 ft-lb.
D) None of these are correct.
- 4) What type of binder is used in all brake friction materials? 4) _____
A) Rubber scrap
B) Carbon
C) Phenolic resin
D) Ceramic powders
- 5) Weight transfer during braking is caused by _____. 5) _____
A) inertia
B) friction
C) weight bias
D) brake bias
- 6) The static friction coefficient is always higher than the kinetic friction coefficient. 6) _____
A) True
B) False
- 7) The kinetic energy of a vehicle traveling at 60 mph is _____ when compared to the same vehicle traveling at 30 mph. 7) _____
A) twice as much
B) three times higher
C) four times as much
D) ten times higher

- 8) Which Greek letter is used to represent the coefficient of friction? 8) _____
- A) Mu (μ)
 - B) Omega (Ω)
 - C) Delta (Δ)
 - D) Pi (π)
- 9) Why is copper being reduced in brake friction materials? 9) _____
- A) Because it is a health concern when it becomes airborne
 - B) It can affect life in rivers and streams
 - C) To help reduce the weight of the vehicle
 - D) To help reduce the cost of the brake pads/linings
- 10) Weight has a greater effect on kinetic energy than speed. 10) _____
- A) True
 - B) False