

Name: _____

Date: _____

1. Which of Sir Isaac Newton's laws of motion suggests that a heavy SUV requires more force to accelerate than a small economy vehicle?

- A. Newton's first law of motion.
- B. Newton's second law of motion.
- C. Newton's third law of motion.
- D. None of the above.

2. What happens to the kinetic energy of an object if its weight is doubled?

- A. The kinetic energy quadruples.
- B. The kinetic energy remains the same.
- C. The kinetic energy is also doubled.
- D. The kinetic energy is halved.

3. When referring to kinetic energy and brake design, if vehicle A weighs twice as much as vehicle B, what does it imply about their brake system?

- A. Vehicle A needs brakes that are four times more powerful.
- B. Both vehicles need the same brake system.
- C. Vehicle A needs a brake system that is half as powerful.
- D. Vehicle A needs a brake system that is twice as powerful.

4. In the science of mechanics, what does a lever do?

- A. Converts energy into weight.
- B. Changes a quantity of energy into a more useful form.
- C. Reduces the force applied to it.
- D. Always passes force in the opposite direction.

5. In which type of lever is the weight placed at one end while the lifting force is applied at some point in between, with the fulcrum at the other end?

- A. First-class lever
- B. Second-class lever
- C. Third-class lever
- D. None of the above

6. On the pH scale, a substance with a pH of 3 would be:

- A. Neutral
- B. Strongly caustic
- C. Mildly caustic
- D. Strongly acidic

7. Boyle's law relates:

- A. Temperature and volume of a gas
- B. Volume and pressure of a gas
- C. Pressure and temperature of a gas
- D. Volume, temperature, and pressure of a gas

8. Which of the following ranges represents the normal human hearing frequency?

- A. 1 to 20 Hertz
- B. 10 to 10,000 Hertz
- C. 20 to 20,000 Hertz
- D. 1 to 1,000 Hertz

9. In the SAE numbering designation for steels, what does the first two numbers typically indicate?

- A. Type of heat treatment
- B. Points of carbon
- C. Type of alloy
- D. Specific hardness or temper

10. Which of the following metals is combined with other elements to form an alloy in the automotive industry?

- A. Iron
- B. Steel
- C. Aluminum
- D. Copper

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Chapter 12

Multiple Choice Quiz B

Answer Key

1. B

2. C

3. D

4. B

5. C

6. D

7. B

8. C

9. C

10. C