

Mechanical Marvels: Elementary Engineering Facts

Mechanical Engineering · Answer Key · 10 Questions

1. What is the force that pulls objects towards the center of the Earth, and is a fundamental concept in mechanical engineering for designing structures and machines?

- A) Magnetism
- B) Gravity**
- C) Friction
- D) Inertia

2. Which simple machine consists of a wheel on an axle or a post, with a groove for a rope or cable to pull a load?

- A) Lever
- B) Inclined Plane
- C) Pulley**
- D) Wedge

3. When a solid object is heated, its particles move faster and spread further apart. This phenomenon is called:

- A) Condensation
- B) Evaporation
- C) Thermal Expansion**
- D) Melting

4. What do we call the resistance that one surface or object encounters when moving over another?

- A) Momentum
- B) Velocity
- C) Acceleration
- D) Friction**

5. A gear is a rotating machine part that has teeth, or cogs, which mesh with another toothed part. What is the primary function of gears?

- A) To generate electricity
- B) To change the speed and torque of rotating parts**
- C) To cool down engines
- D) To measure temperature

6. Which state of matter has a definite shape and a definite volume, and is commonly used in building structures and machine parts?

- A) Liquid
- B) Gas
- C) Plasma
- D) Solid**

7. When designing a simple machine like a ramp, what is the purpose of using an inclined plane?

- A) To make lifting objects heavier
- B) To make lifting objects easier by reducing the force needed**
- C) To increase the speed of movement
- D) To create light

8. What is the term for the rate at which work is done, often measured in watts?

- A) Energy
- B) Force
- C) Power**
- D) Torque

9. Which of these is a type of fluid that can be easily compressed, like air?

- A) Liquid
- B) Solid
- C) Gas**
- D) Plasma

10. What principle states that an object immersed in a fluid experiences an upward buoyant force equal to the weight of the fluid displaced by the object?

- A) Newton's Law of Motion
- B) Archimedes' Principle**
- C) The Law of Conservation of Energy
- D) The Ideal Gas Law