

Mechanical Engineering Basics for Teens

Mechanical Engineering · Answer Key · 10 Questions

1. Which of the following is the primary function of a gear?

- A) To store electrical energy
- B) To transmit rotational motion and torque**
- C) To create light
- D) To filter air

2. What is the main purpose of a bearing in a mechanical system?

- A) To generate heat
- B) To reduce friction between moving parts**
- C) To amplify sound
- D) To increase pressure

3. Which force causes an object to resist changes in its state of motion?

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

4. What is the principle that states for every action, there is an equal and opposite reaction?

- A) Archimedes' Principle
- B) Newton's First Law of Motion
- C) Pascal's Principle
- D) Newton's Third Law of Motion**

5. Which material is commonly used in engines because of its high strength and resistance to heat?

- A) Plastic
- B) Glass
- C) Aluminum alloy**
- D) Wood

6. What do we call the process of shaping metal by heating it and then hammering or pressing it into a desired form?

- A) Casting
- B) Welding
- C) Forging**
- D) Machining

7. In a simple lever, what is the point around which the lever pivots called?

- A) Load
- B) Effort
- C) Fulcrum**
- D) Resistance

8. What is the primary role of a piston in an engine?

- A) To cool the engine
- B) To convert linear motion into rotational motion (or vice versa)**
- C) To ignite the fuel
- D) To lubricate moving parts

9. Which type of energy is stored in a stretched rubber band?

- A) Kinetic energy
- B) Thermal energy
- C) Potential energy**
- D) Electrical energy

10. What is the process of removing material from a workpiece using a cutting tool?

- A) Assembly
- B) Inspection
- C) Fabrication
- D) Machining**