

1. The property of a material to resist a sudden shock or impact is called:
 - A hardness
 - B strength
 - C stiffness
 - D toughness

2. In terms of tensile strength, which is the correct order for these three materials (strongest first)?
 - A cast iron, steel, aluminium
 - B steel, cast iron, aluminium
 - C steel, aluminium, cast iron
 - D cast iron, aluminium, steel

3. In a tensile test, the gradient of the first part of a stress-strain graph gives:
 - A elastic limit
 - B modulus of elasticity
 - C ultimate tensile stress
 - D yield point

4. A gear tooth is should be:
 - A uniformly tough
 - B uniformly hard
 - C tough on the surface and hard on the inside
 - D hard on the surface and tough on the inside.

5. Which property allows a material to be drawn into wires?
 - A ductility
 - B elasticity
 - C strength
 - D toughness

6. A metal sample fails after repeated loading/unloading cycles at less than the yield point and at normal temperatures. This is called:

- A creep
- B elastic deformation
- C fatigue
- D plastic deformation

7. Since it leads to permanent deformation, plastic deformation must always be avoided.

- A True
- B False

8. Creep may be a problem for turbine blades in a gas turbine engine.

- A True
- B False

9. Diamond is the hardest known natural material, so hitting a diamond with a steel hammer will never break it.

- A True
- B False

10. The atoms in metals are arranged in regular crystalline structures. Changing the crystal structures in a metal changes its properties.

- A True
- B False