

# Fundamentals of Thermodynamics

Thermodynamics · Answer Key · 8 Questions

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**1. Which law of thermodynamics states that the entropy of a perfect crystal at absolute zero is exactly zero?**

- A) The First Law
- B) The Second Law
- C) The Third Law**
- D) The Zeroth Law

**2. In an isobaric process, which physical property of a system remains constant?**

- A) Pressure**
- B) Volume
- C) Temperature
- D) Entropy

**3. What is the SI unit of measurement for entropy?**

- A) Joules per Kelvin**
- B) Newtons per meter
- C) Watts per second
- D) Pascals per cubic meter

**4. What concept is defined by the Zeroth Law of Thermodynamics?**

- A) Internal energy
- B) Thermal equilibrium**
- C) Enthalpy
- D) Heat capacity

**5. Which form of energy transfer occurs specifically due to a temperature difference between two systems?**

- A) Work
- B) Entropy
- C) Heat**
- D) Mass

**6. The First Law of Thermodynamics is essentially a specific statement of which fundamental physical principle?**

- A) Conservation of momentum
- B) Conservation of mass
- C) Conservation of charge
- D) Conservation of energy**

**7. Which thermodynamic cycle represents the most efficient possible heat engine operating between two temperatures?**

- A) Otto cycle
- B) Carnot cycle**
- C) Diesel cycle
- D) Rankine cycle

**8. What term describes a thermodynamic process that occurs without the exchange of heat with the surroundings?**

- A) Isothermal
- B) Isochoric
- C) Adiabatic**
- D) Polytropic