Question Paper

Topic 1: Mechanics

Q1. Which of the following best describes Newton's first law of motion?
An object in motion will stay in motion unless acted upon by an external force
Force equals mass times acceleration
For every action, there is an equal and opposite reaction
Acceleration is directly proportional to the net force acting on an object
Answer: An object in motion will stay in motion unless acted upon by an external force
Explanation: Newton's first law of motion states that an object will remain at rest or in uniform motion in a straight line unless acted upon by an external force.

Q2. What is the formula to calculate speed?
Speed = distance x time
Speed = force / mass
Speed = mass x acceleration
Speed = momentum / time
Answer: Speed = distance x time
Explanation: Speed is calculated by dividing the distance traveled by an object by the time taken to cover that distance.