Question Paper

Topic 1: Mechanics

Q1. A car is moving at a constant speed of 40 m/s. If the car travels a distance of 200 meters, how long does it take to cover this distance?
Answer: 5 seconds
Explanation: Time = Distance / Speed = 200m / 40m/s = 5 seconds

Q2. A ball is thrown vertically upward with an initial velocity of 20 m/s. What is the maximum height the ball reaches before falling back down?
Answer: 20 meters
Explanation: Using the kinematic equation: $h = (v^2) / (2g)$, where v is initial velocity and g is acceleration due to gravity. $h = (20^2) / (2 * 9.8) = 20$ meters