

Numericals:-

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Chapter # 03

Kinematics:-

3.1. Find the time taken by sunlight to reach the ground if the distance between the sun and the earth is 1.5×10^8 km. Velocity of light 3×10^8 ms⁻¹

DATA:-

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$$\begin{aligned} \text{Distance} = S &= 1.5 \times 10^8 \text{ km} \\ &= 1.5 \times 10^{11} \text{ m} \end{aligned}$$

$$\text{Velocity} = V = 3 \times 10^8 \text{ ms}^{-1}$$

$$\text{Time} = t = ?$$

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SOLUTION:-

$$V = \frac{S}{t}$$

$$t = 8.33$$

$$t = 8 + 0.33 \times 60$$

$$t = \frac{S}{V}$$

$$t = 8 \text{ min } 20 \text{ secs}$$

$$t = \frac{1.5 \times 10^{11}}{3 \times 10^8}$$

$$t = 500$$

$$t = \frac{500}{60}$$