Answer on Question #51825, Physics, Mechanics | Kinematics | Dynamics

A man leaves the garrage in his house and drives to a neighbouring town which is twenty kilometres away from his house on sight-seeing. He returns home to his garrage two hours after. What is his average velocity from home in km/h?

Solution:

The average velocity during the course of a motion is often computed using the following formula:

$$\text{Average Speed} = \frac{\text{Distance Traveled}}{\text{Time of Travel}}$$

$$v_{av} = \frac{d_1 + d_2}{t_1 + t_2}$$

From given:

$$d_1 = d_2 = 20 \text{ km}$$
$$t_1 + t_2 = 2 \text{ hour}$$

Thus,

$$v_{av} = \frac{d_1 + d_2}{t_1 + t_2} = \frac{20 + 20}{2} = 20 \text{ km/h}$$

Answer: $v_{av} = 20 \text{ km/h}$