Answer on Question #68358, Physics / Mechanics | Relativity

Question:

A car is moving the speed of 60 km/hours and a bird is moving the speed of 90 km/hours in the same direction. When the car complete the 240m distance then what is the distance complete by bird?

Solution:

A car and a bird are both moving with constant speeds, without acceleration. Therefore the distances they complete are proportional to their speeds.

Let v_c be the car's speed;

 v_b — the bird's speed;

 d_c — the distance completed by the car;

 d_b — the distance completed by the bird.

We may write that

$$\frac{d_b}{d_c} = \frac{v_b}{v_c} \ \ \text{and then} \ \ d_b = \frac{d_c v_b}{v_c} \,.$$

$$d_c = 240m, v_c = 60 \frac{km}{h}, v_b = 90 \frac{km}{h}$$

Finally
$$d_b = \frac{240.90}{60} = 360m$$

Answer:

360m

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