# Answer on Question \#68358, Physics / Mechanics | Relativity 

## Question:

A car is moving the speed of $60 \mathrm{~km} / \mathrm{hours}$ and a bird is moving the speed of $90 \mathrm{~km} / \mathrm{hours}$ in the same direction. When the car complete the 240 m 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

$$
\begin{aligned}
& \frac{d_{b}}{d_{c}}=\frac{v_{b}}{v_{c}} \text { and then } d_{b}=\frac{d_{c} v_{b}}{v_{c}} . \\
& d_{c}=240 \mathrm{~m}, v_{c}=60 \frac{\mathrm{~km}}{\mathrm{~h}}, v_{b}=90 \frac{\mathrm{~km}}{\mathrm{~h}}
\end{aligned}
$$

Finally $d_{b}=\frac{240 \cdot 90}{60}=360 \mathrm{~m}$

## Answer:

