

What is your average velocity if you drive a distance of 306 km at a speed of 40 km/h, then the same distance at a speed of 62 km/h?

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

where  $v$  - an average speed,  $S$  - a total distance,  $t$  - a total time.

The total distance equals:

$$S = 306 \text{ km} + 306 \text{ km} = 612 \text{ km}$$

The total time equals:

$$t = \frac{306 \text{ km}}{40 \frac{\text{km}}{\text{h}}} + \frac{306 \text{ km}}{62 \frac{\text{km}}{\text{h}}} = 12.59 \text{ h}$$

Therefore:

$$v = \frac{612 \text{ km}}{12.59 \text{ h}} = 48.6 \frac{\text{km}}{\text{h}} \cong 49 \frac{\text{km}}{\text{h}}$$

Answer:  $49 \frac{\text{km}}{\text{h}}$