

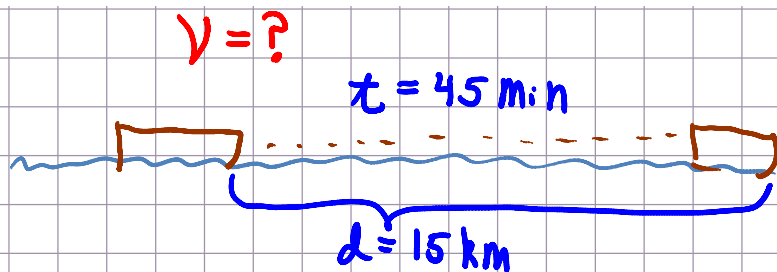
Example 1

Monday, January 14, 2013
7:29 AM

Example 1 (Parallel Exercise Group B #2)



- 1) What was the average speed in km/hr of a boat that moves 15.0 km across a lake in 45 min? In m/s?



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

$$v = \frac{15 \text{ km}}{45 \text{ min}} = .333 \frac{\text{km}}{\text{min}}$$

$$.333 \frac{\text{km}}{\text{min}} \left(\frac{60 \text{ min}}{1 \text{ hr}} \right) = 19.98 \text{ km/hr}$$

$$19.98 \frac{\text{km}}{\text{hr}} \left(\frac{1000 \text{ m}}{1 \text{ km}} \right) \left(\frac{1 \text{ hr}}{3600 \text{ s}} \right) = 5.55 \text{ m/s}$$

$$1 \text{ km} = 1000 \text{ m}$$

$$1 \text{ hr} = 3600 \text{ s}$$

Example 2

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Example 2 (Parallel Exercise Group B #10)



2) What is the acceleration of a car that moves from a speed of 5.0 m/s to a speed of 15 m/s during a time of 6.0 s?

$a = ?$

$v_i = 5 \text{ m/s}$

$v_f = 15 \text{ m/s}$

a

$t = 6 \text{ s}$

$$a = \frac{v_f - v_i}{t}$$
$$a = \frac{15 \text{ m/s} - 5 \text{ m/s}}{6 \text{ s}}$$
$$a = \frac{10 \text{ m/s}}{6 \text{ s}}$$
$$a = 1.66 \text{ m/s}^2$$