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Notes on Speed, Distance and Time
Velocity Word Problems

Warm-Up

When glass breaks, the cracks move at speed of more than 4500 km/h

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Constant Speed

the distance and time increased or decreases at an equal rate: e/ d = 5, 10, 15
t = 1, 2, 3

Instantaneous Speed

the speed@ a particular moment or instant i.e/ at 5s, at a stop sign.

Average Speed (v_{av})

total distance divided by the total time. $v = \frac{\Delta d}{\Delta t} = \frac{d_2 - d_1}{t_2 - t_1}$

Example 1: Jenny skates to school a distance of 4.5km. Her journey takes 0.62 h. What is her average speed during the trip?

Step 1 :
Write down what you know on the left side with symbols and values
As well write what you want to find.

v=

d= 4.5km

t= 0.62h

Step 2 :Determine if you need to convert units. If so convert into matching units

Step 3: Use the formula to solve

$v = \frac{d}{t} = \frac{4.5}{0.62} =$ 7.3 km/h

Step 4: Write a Sentence

Jenny skates an average speed of 7.3km/h

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Example 2:
Josh is trying to find his average speed when riding his bike. He travels a distance of 45 km and it takes him 139 min, including slowing down for climbing hills. What is his average speed in km/h?

Step 1 :
Write down what you know on the left side with symbols and values. As well write what you want to find.

$v =$
$d = 45\,km$
$t = 139\,min$

Step 2 :Determine if you need to convert units. If so convert into matching units

$139\,min \times \frac{1\,h}{60\,min} = 2.32\,h$

Step 3: Use the formula to solve

$v = \frac{d}{t} = \frac{45}{2.32} = 19\,km/h$

Step 4: Write a Sentence

His average speed is 19km/h.

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