

5. A car travels 32.5 m in 12 seconds. How fast is the car moving? Give your answer in km/hr.

$$v = ?$$

$$d = 32.5 \text{ m}$$

$$t = 12 \text{ s}$$

$$v = \frac{d}{t} = \frac{32.5 \text{ m}}{12 \text{ s}} = 2.7 \text{ m/s}$$

$$2.7 \text{ m/s} \times 3.6 = 9.75 \text{ km/h}$$

$$\text{m/s} \rightarrow \text{km/h} \times 3.6$$

$$v = 9.8 \text{ km/h}$$

6. Traveling around St. John's by bus requires stopping many times. The average speed of a bus is 40.0 km/h. How far can a bus travel in 30.0 min?

$$v = 40.0 \text{ km/h}$$

$$d = ?$$

$$t = 30.0 \text{ min}$$

$$30.0 \text{ min} \times \frac{1 \text{ hr}}{60 \text{ min}} = 0.5 \text{ h}$$

$$d = 20.0 \text{ km}$$

$$d = v \times t$$

$$= 40.0 \text{ km/h} \times 0.5 \text{ h} = 20.0 \text{ km}$$

7. How far could a rabbit run if it ran 36 km/h for 5.25 minutes?

$$v = 36 \text{ km/h}$$

$$d = ?$$

$$t = 5.25 \text{ min}$$

$$5.25 \text{ min} \times \frac{1 \text{ hr}}{60 \text{ min}} = 0.0875 \text{ h}$$

$$d = 3.2 \text{ km}$$

$$d = v \times t$$

$$= 36 \text{ km/h} \times 0.0875 \text{ h} = 3.15 \text{ km}$$

8. Kim skateboards down the street in front of the school, traveling at 24.0 km/h. How much time would it take her to travel 6.0 km?

$$v = 24.0 \text{ km/h}$$

$$d = 6.0 \text{ km}$$

$$t = ?$$

$$t = \frac{d}{v} = \frac{6.0 \text{ km}}{24.0 \text{ km/h}} = 0.25 \text{ h}$$

$$t = 0.25 \text{ h}$$

9. White Hills lake is 40.0 km away. Israel leaves Baker at 10:00 a.m. and travels at a speed of 60.0 km/h. Russell leaves Baker at 1:00 p.m. and travels at a speed of 75.5 km/h. Who will reach White Hills Lake first?

Israel

$$v = 60.0 \text{ km/h}$$

$$d = 40.0 \text{ km}$$

$$t = ?$$

$$t = \frac{d}{v} = \frac{40.0 \text{ km}}{60.0 \text{ km/h}}$$

$$t = 0.667 \text{ h}$$

Russell

$$v = 75.5 \text{ km/h}$$

$$d = 40.0 \text{ km}$$

$$t = ?$$

$$t = \frac{d}{v} = \frac{40.0 \text{ km}}{75.5 \text{ km/h}}$$

$$t = 0.530 \text{ h}$$

Although Russell took less time to get there, Israel will reach White Hills lake first because he left much earlier!

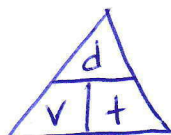
Science 1206

Worksheet 2 – Speed, Distance, Time

Name: KEY

Complete the following questions.

Remember: **Show your workings!**



Formulae: $v = \frac{d}{t}$ $d = v \times t$ $t = \frac{d}{v}$

Include Units!

Use Significant Figures!

1. A car travels from St. John's to Clarenville in 2.0 hr. The total distance traveled by the car is 175 km. What is the average speed of the car for the trip?

$$v = ?$$

$$d = 175 \text{ km}$$

$$t = 2.0 \text{ hr}$$

$$v = \frac{d}{t} = \frac{175 \text{ km}}{2.0 \text{ h}} = 87.5 \text{ km/h}$$

$v = 88 \text{ km/h}$

2. A person walks at an average speed of 6.0 km/h. How much time is required for a person to walk 30.0 m?

$$v = 6.0 \text{ km/h}$$

$$d = 30.0 \text{ m}$$

$$t = ?$$

$$30.0 \text{ m} \times \frac{1 \text{ km}}{1000 \text{ m}} = 0.03 \text{ km}$$

$$t = \frac{d}{v} = \frac{0.03 \text{ km}}{6.0 \text{ km/h}} = 0.005 \text{ h}$$

$t = 0.0050 \text{ h}$

3. How much time would it take Roy to walk 1.00 km if he walked at a rate of 4.5 km/h?

$$v = 4.5 \text{ km/h}$$

$$d = 1.00 \text{ km}$$

$$t = ?$$

$$t = \frac{d}{v} = \frac{1.00 \text{ km}}{4.5 \text{ km/h}} = 0.222 \text{ h}$$

$t = 0.22 \text{ h}$

4. If two hikers walk for 5.0 hr a day and cover 21.0 km, what is their average velocity for the day? How long will it take them to travel 65 km?

$$v = ?$$

$$d = 21.0 \text{ km}$$

$$t = 5.0 \text{ h}$$

$$v = \frac{d}{t} = \frac{21.0 \text{ km}}{5.0 \text{ h}} = 4.2 \text{ km/h}$$

$v = 4.2 \text{ km/h}$

$$v = 4.2 \text{ km/h}$$

$$d = 65 \text{ km}$$

$$t = ?$$

$$t = \frac{d}{v} = \frac{65 \text{ km}}{4.2 \text{ km/h}} = 15.48 \text{ h}$$

$t = 15 \text{ h}$