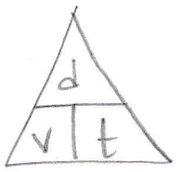


Find the distance for the following equations.

1. Kayla drives her car at an average speed of 65km/h in a time of 1.5 h. How far does she travel in this time?

$v = 65\ km/h$
$d = ?$
$t = 1.5\ h$

$d = v \times t$
$= 65\ km/h \times 1.5\ h$
$d = 97.5\ km$

$\boxed{d = 98\ km}$

2. Mitchel walked for 2.1 h along part of the Trans Canada Trail at a speed of 3.6 km/h. What distance did Mitchel travel?

$v = 3.6\ km/h$
$d = ?$
$t = 2.1\ h$

$d = v \times t$
$= 3.6\ km/h \times 2.1\ h$
$d = 7.56\ km$

$\boxed{d = 7.6\ km}$

3. The cruise control set on Shayne's car is on 80km/h. What distance does the car travel during 3.5 h?

$v = 80\ km/h$
$d = ?$
$t = 3.5\ h$

$d = v \times t$
$= 80\ km/h \times 3.5\ h$

$\boxed{d = 280\ km}$
$\boxed{d = 2.8 \times 10^2\ km}$ *either accepted

Find the time for the following equations.

1. Jerrett and Jimmy are competing in a 50000 m race. Jerrett can run at 2.5 m/s while Jimmy can run at 1.8 m/s.

Jerrett
$v = 2.5\ m/s$
$d = 50\,000\ m$
$t = ?$

Jimmy
$v = 1.8\ m/s$
$d = 50\,000\ m$
$t = ?$

a.) How long will it take each person to finish the race?

Jer// $t = d/v = \frac{50\,000\ m}{2.5\ m/s} = 20\,000\ s$ or $2.0 \times 10^4\ s$

Jim// $t = d/v = \frac{50000\ m}{1.8\ m/s} = 27\,777.78\ s$ or $2.8 \times 10^4\ s$

b.) When Jerrett crosses the finish line, how much time is left for Jimmy to cross?

$27\,777.78 - 20\,000 = 7\,777.78\ s$

$2.8 \times 10^4 - 2.0 \times 10^4 = 8.0 \times 10^3\ s$

2. How long would it take Daniel to travel a total distance of 25.0km at an average speed of 5.2 km/ h?

$v = 5.2\ km/h$
$d = 25.0\ km$
$t = ?$

$t = \frac{d}{v} = \frac{25.0\ km}{5.2\ km/h} = 4.8\ h$

$\boxed{t = 4.8\ h}$

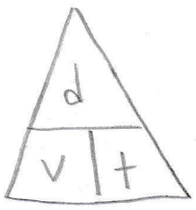
b.) How many minutes would this be?

$4.8\ h \times \frac{60\ min}{1\ h} = 288\ min$

with 2 sig figs... $2.9 \times 10^2\ min$

PHYSICS IN SCIENCE 1206

AVERAGE SPEED EQUATIONS



Name: KEY

Find the average speed for the following.

1. Julie jogs to school a total distance of 5.2km. If the trip takes her 0.84 h, what is her average speed?

$v = ?$
$d = 5.2\text{km}$
$t = 0.84\text{h}$

$v = \frac{d}{t} = \frac{5.2\text{km}}{0.84\text{h}}$

$\boxed{v = 6.2\ \text{Km/h}}$

2. Josh skates to school, a total distance of 4.5 km. The total journey takes him 0.62 h. What is Josh's average speed during the trip?

$v = ?$
$d = 4.5\text{km}$
$t = 0.62\text{h}$

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

$\boxed{v = 7.3\ \text{Km/h}}$

3. If Noah and Michael Hike the Trans Canada Trail for 5.0 h and cover 42 km, what is the average speed for the trip?

$v = ?$
$d = 42\text{Km}$
$t = 5.0\text{ h}$

$v = \frac{d}{t} = \frac{42\text{ km}}{5.0\text{h}}$

$\boxed{v = 8.4\ \text{km/h}}$

4. Ms. Blackmore's car leave Foxtrap and travels to Longpond, a total of 2 km in 0.100 h. What is her speed? Is this speed more or less than the speed limit in the area.

$v = ?$
$d = 2\text{km}$
$t = 0.100\text{h}$

$v = \frac{d}{t} = \frac{2\text{ km}}{0.100\text{h}}$

$\boxed{v = 20\ \text{Km/h}}$

or $v = 2 \times 10^{1}\ \text{km/h}$

* Her speed is less than the local speed limit

SCIENCE 1206 PHYSICS QUIZ NAME: _____

1. How many significant digits are there in the following measurements?

   A. 35070 mm 5

   B. 21.0400 L 6

   C. 0.123 kg 3

2. Change the following measurements to scientific notation:

   A. 65498 cm 6.5×10^4 cm

   B. 734.5 m 7.3×10^2 m

   C. 0.0032832 L 3.3×10^{-3} L

3. Change the following scientific notation measurements to regular measurements:

   A. 1.56×10^4 m 15600 m

   B. 3.6×10^{-2} m 0.036 m

   C. 7.369×10^{-5} m 0.00007369 m

4. Round off these measurements to the number of significant digits in brackets:

   A. 734.5 (2) 7.3×10^2

   B. 0.84329 (4) 0.8433

   C. 88.340 (3) 88.3

   D. 25000 (1) 3×10^4

5. Add the following numbers, and round off the answer to the correct number of decimal places.

   A. 1.25 km + 65 km 66.25 km ⇒ 66 km

   B. 1.0025 m - 0.250 m 0.7525 m ⇒ 0.753 m

   C. 1.21 °C + 3.4 °C 4.61 °C ⇒ 4.6 °C

6. Multiply the following numbers and round off the answers to the correct number of significant digits.

   A. 2.14 kg x 32.366 kg 69.26324 kg^2 ⇒ 69.3 kg^2

   B. 3.894 m ÷ 2.16 s 1.8028 m/s ⇒ 1.80 m/s

   C 200 s x 3.58 s 716 s^2

7. Convert the following:

   A. 943000 cm 9.43 km

   $943000 \text{ cm} \times \frac{1 \text{ m}}{100 \text{ cm}} = 9430 \text{ m}$

   $9430 \text{ m} \times \frac{1 \text{ km}}{1000 \text{ m}} = 9.43 \text{ km}$

   B. 30 005 mm 30.005 m

   $30\,005 \text{ mm} \times \frac{1 \text{ cm}}{10 \text{ mm}} = 3000.5 \text{ cm}$

   $3000.5 \text{ cm} \times \frac{1 \text{ m}}{100 \text{ cm}} = 30.005 \text{ m}$

   C. 57.62 km 57620 m

   $57.62 \text{ km} \times \frac{1000 \text{ m}}{1 \text{ km}} = 57620 \text{ m}$

   D. 36.23 cm 362.3 mm

   $36.23 \text{ cm} \times \frac{10 \text{ mm}}{1 \text{ cm}} = 362.3 \text{ mm}$