Friday Feb 10, 2012

Answers to WS
Quiz
Distance/Speed/Time

Answers
More Significant Digits, Scientific Notation and Conversions Worksheet

1) 334.54 km + 198 km = 533km
2) 34.1 km/ 1.1h = 31km/h
3) 2.11 m / 34 s = 0.062m/s
4) 0.0010 m – 0.11 m = -0.11 m
5) 349 cm + 1.10 cm + 100 cm = 450 cm
6) 450 meters / 114 seconds = 3.9m/s
7) 298.01 km+ 34.112 km = 332.12 km
8) 84 m/s x 31.221 s = 2600 m
9) 22.4 m x 0.1m = 2 m^2
10) 465km / 5.21h = 89.3 km/h

Part B: Convert the following numbers into scientific notation:

1) 3,400 3.4×10^{3}
2) 0.000023 2.3×10^{-5}
3) 101,000 1.01×10^{5}
4) 0.010 1.0×10^{-2}
5) 45.01 4.5×10^{1}
6) 1,000,000 1.0×10^{6}
7) 0.00671 6.71×10^{-3}
8) 4.50 4.50×10^{0}

Part C: Round each of the following to three Significant Digits:

1) 5357 5340
2) 64.845 64.8
3) 578900 579 000
4) 0.0031904 0.00319
5) 16.8477 16.8
6) 0.14986 0.150
7) 0.00318756 0.00319
8) 861.85 8.62
9) 0.9025011 0.903
10) 5.6732 5.67

Part D: Convert each of the following to the units stated:

1) 30 s , convert to min

$30\ s \times \frac{1\ min}{60\ s} = 0.5\ min$

2) 38 km, convert to meters

$38\ km \times \frac{1000\ m}{1\ km} = 38000\ m$

3) 102km/h , convert to m/s

$102\ km/h \times \frac{1\ m/s}{3.6\ km/h} = 28.3\ m/s$

4) 92 min, convert to hours

$92\ min \times \frac{1\ h}{60\ min} = 1.53\ h$

5) 3.5 h , convert to min

$3.5\ h \times \frac{60\ min}{1\ h} = 210\ min$

6) 650 m, convert to km

$650\ m \times \frac{1\ km}{1000\ m} = 0.65\ km$

7) 0.0300 h, convert to s

$0.0300\ h \times \frac{60\ min}{1\ h} \times \frac{60\ s}{1\ min} = 108\ s$

8) 5 km/h , convert to m/s

$5\ km/h \times \frac{3.6\ m/s}{1\ km/h} = 162\ km/h$

9) 45 m/s , convert to km/h

$45\ m/s \times \frac{3.6\ km/h}{1\ m/s} = 162\ km/h$

10) 3600s, convert to hours

$3600\ s \times \frac{1\ min}{60\ s} \times \frac{1\ h}{60\ min}$

Quiz

Speed, Distance, Time

Distance (*d*) is the amount of space between two objects or points.

The common unit of distance is the metre (m) it can also be represented as m,cm,mm,km etc

Time - is the duration between two events

Is measured in seconds (s) , minutes (min) or hours (h)

What is the relationship between Distance and Time?

The answer is speed

Speed = $\frac{\text{distance}}{\text{Time}} = \frac{d}{t}$

represented as km/h , m/s etc

There are various ways we can describe speed

Instantanous Speed
Constant Speed
Average Speed

Instantaneous Speed

is the speed at which an object is travelling at a particular instant.

i.e. if a car is stopped at a stop light its instantaneous speed is 0km/h
when a car passed a truck its speed was 100km/h at that specific point in time.

Constant Speed

if instantaneous speed remains the same over a period of time we say the car is travelling at a constant speed. If you are using cruise control on your car it is easy to travel at a constant speed.

the average speed of an object is the same as its instantaneous speed if that object has a constant speed.

Average Speed (v_{av})

= it is the total distance (d) divided by the total time (t) of the trip.

Formula : $v = \frac{\Delta d}{\Delta t} = \frac{d_2 - d_1}{t_2 - t_1}$

use $d_2 - d_1$ or $t_2 - t_1$ when you have more than one distance or more than one velocity

Attachments

S10 sig figs answers.notebook

answers extra pratice ws significant digits, scientific notation,rearranging and converting.notebook