Today's Plan

review rearranging equations and converting units
Distance, speed and time

Warm-Up

Using the rules for SD calculate each of the following, dont forget to put large numbers in scientific notation:

1) 1.12 + 0.9 + 64 = 66
2) 1000 x 340 = 300,000 or 3×10^5
3) 1500000/5 = 300,000 or 3×10^5

Converting time and distances:

To change kilometers (km) to meters (m) you multiply by 1000.

To change hours (h) to seconds (s) you multiply by 3600.

Therefore, to change km/h to m/s you divide by 3.6.

And to change m/s to km/h you multiply by 3.6.

Example 1:
1) t= 30 s , convert to h

$$30\ \text{s} \quad \div \quad 3600 \quad = \quad 0.008\ \text{h}$$

Example 2

v= 102km/h , convert to m/s

$$102 \text{ km/h} \quad \div \quad 3.6 = 28.3 \text{m/s}$$

Example 3

v= 12 m/s , convert to km/h

12m/s x 3.6 = 43km/h

Complete Questions pg 349 #9

9. a) 34 min into hours

$$34 \text{ min} \times \frac{1 \text{ hour}}{60 \text{ min}} = 0.57 \text{ hours}$$

b) 0.510 km into meters

$$0.510 \text{ km} \times 1000 = 510. \text{ m or } 5.1 \times 10^2 \text{ m}$$

c) 0.0021 h into seconds

$$0.021 \times 3600 = 76 \text{ sec}$$

d) 25km/h into meters per second

$$25 \text{km/h} \div 3.6 = 6.9 \text{ m/s}$$

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

pg 349 3,4,6,7,9 answers.notebook