Feb 13, 2019

1) answer to HW (Part B on WS)

2) Converting Units

Quiz Friday!!

Warm-Up

Put the following numbers into Scientific notation:

1) 23 400 2.34×10^{4}

2) 0.00294 2.94×10^{-3}

Answers WS Part B

Part B:

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) 45.04 4.5×10^{-1}

6) 1,000,000 1.0×10^{6}

7) 0.00671 6.71×10^{-3}

8)4.50 4.5×10^{0}

Converting Units:

Sometimes the data provided is not given in the units required to solve the problem in these cases you need to multiple by conversion factors which are memorized or referenced.

i.e. 1 min = 60 sec
1 hr = 60 min
1hr = 3600 s

1 km = 1000m
1m/s = 3.6km/h

$$\text{number you are converting} \times \frac{\text{units you want}}{\text{units you have}}$$

i.e. convert 38 min to hours

$$38 \text{ min} \times \frac{\text{want (h)}}{\text{have (min)}}$$

$$38 \text{ min} \times \frac{1\text{hr}}{60\text{min}} = \frac{38\text{min h}}{60\text{min}} = 0.63 \text{ h}$$

Sample Problem 1: An athlete completed a 5km race in 19.5 min. **Convert this distance into m**.

Use Conversion Factor

$$5\text{km} \times \frac{\text{want(m)}}{\text{have (km)}} \times \frac{1000\text{m}}{1\text{km}} = 5000\text{ m}$$

Sample Problem 2: A train is travelling at 95km/h. **Convert** 95km/h **into meters per second**.

Use Conversion Factor

$$95\text{km/h} \times \frac{\text{want (m/s)}}{\text{have (km.h)}} \quad \frac{1\text{m/s}}{3.6\text{km/h}} = 26\text{m/s}$$

Try this

1. Convert 19.5min into hours.

$$19.5 \text{ min} \times \frac{1 \text{ h}}{60 \text{ min}} = 0.325\text{h}$$

2. Convert 910 km into m.

$$910 \text{ km} \times \frac{1000 \text{ m}}{1 \text{ km}} = 910{,}000\text{m}$$

Remember to use

(number you are converting) x $\frac{\text{want}}{\text{have}}$ = answer

More Significant Digits, Scientific Notation and Converting Units Worksheet

Part D