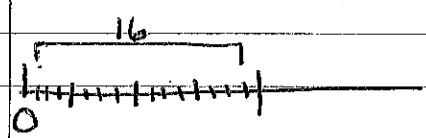


2.1 Math 10 AW - Notes

Imperial Measurement



there are 16 ticks between each inch.
 so one tick = $\frac{1}{16}$

To know

1 foot = 12 inches

1 yard = 3 feet or 36 inches

1 mile = 1760 yards; 5280 feet or 63360 inches

$\xrightarrow{\quad \times \quad}$ ex 2 ft = $2 \times 12 = 24$ inches

$\xleftarrow{\quad \div \quad}$ ex 315 ft = $315 \div 3 = 105$ yards

To convert from feet and inches to inches

- ① multiply feet by 12
- ② add to inches

ex 3 ft 6 inches

① = $3 \times 12 = 36$

② $36 + 6 = 42$ inches

To convert feet in decimal to feet and inches

- ① multiply decimal by 12
- ② write in feet and (now) inches

ex 6.3 feet \Rightarrow ① $.3 \times 12 = 3.6$ inches
 ~ 4 inches

② 6 ft 4 inches

Multiple Conversions7yds 2ft 4 inches \rightarrow inches* Convert
1 at a time
then add

$$7\text{yd} = 7 \times 3 = 21\text{ feet} = 21 \times 12 = 252\text{ inches}$$

$$2\text{ft} = 2 \times 12 = 24\text{ inches}$$

$$\underline{\text{Add}} = 252 + 24 + 4 = 280\text{ inches}$$

Go the other way

452 inches into feet & yards & inches

$$\textcircled{1} 452 \div 12 \text{ (to find out how many feet)}$$

37.6
 \swarrow 37 whole feet
 to find out what $\underline{37} \times 12 = 444$ inches
 is left in inches

$$\textcircled{2} 444 \div 3 \text{ (to find out how many yards)} \rightarrow 148 \text{ full yards (no decimal)}$$

$$\therefore 452 - 444 = \boxed{8 \text{ inches}}$$

\therefore 148 yards and 8 inches.

So no
feet left over

2.2 Math 10 AW - notes

Metric - all based around the metre
- all in multiples of 10

$$m = 1000$$

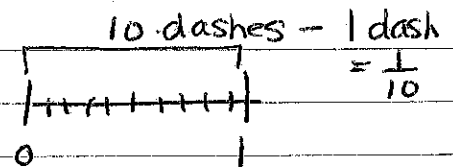
$$c = 100$$

$$h = 100$$

$$k = 1000$$

$$d = 10$$

* see chart on page 42



Quick facts

$$1 \text{ cm} = 10 \text{ mm}$$

$$1 \text{ m} = 100 \text{ cm or } 1000 \text{ mm}$$

$$1 \text{ km} = 1000 \text{ m}$$

$$\xrightarrow{\times} \quad \text{ex. } 15 \text{ cm} = 15 \times 10 = 150 \text{ mm}$$

$$\xleftarrow{\div} \quad \text{ex. } 3000 \text{ m} = 3000 \div 1000 = 3 \text{ km}$$

exponents review :

$$10^1 = (\text{1 zero}) = 10$$

$$10^2 = (\text{2 zeros}) = 100$$

$$10^3 = (\text{3 zeros}) = 1000$$

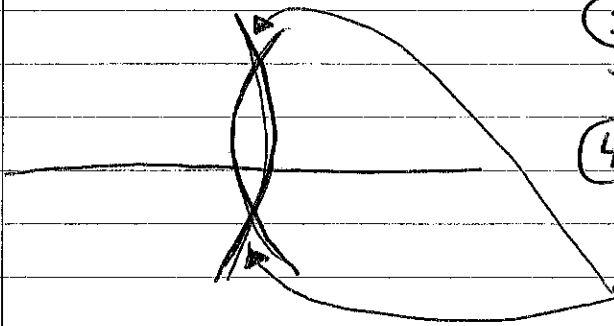
$$\frac{1}{10} = (\text{back 1 place}) = 0.1$$

$$\frac{1}{100} \text{ or } \frac{1}{10^2} = (\text{back 2 places}) = 0.01$$

$$\frac{1}{1000} \text{ or } \frac{1}{10^3} = (\text{back 3 places}) = 0.001$$

2.5 Math 10 AW - notesMidpoint of a line

Use a compass (see page 52)



- ① open to reach over $\frac{1}{2}$ way of the line.
- ② draw an arc.
- ③ draw another arc from the opposite end of the line
- ④ use a ruler to draw a line between the intersection of the arcs

This is the midpoint of the line

2.6 Math 10AW - notes

2.7 Conversion between systems

→ use the chart at the front or back of your book

have $\xrightarrow{\text{multiply by number given}}$ want

want $\xleftarrow{\text{divide by number given}}$ have

ex 8 inches \rightarrow cm

$$8 \times 2.54 = 20.32 \text{ cm}$$

$$1 \text{ inch} = 2.54 \text{ cm}$$

$\xrightarrow{\text{multiply}}$

Extra steps: If a direct route to what you want is not there convert to what you have and then convert again

ex 4 yd \rightarrow cm

$$4 \times 0.91 = 3.64 \text{ m}$$

$$3.64 \times 100 = 364 \text{ cm}$$

① 1 yd = 0.91 m

② 1 m = 100 cm