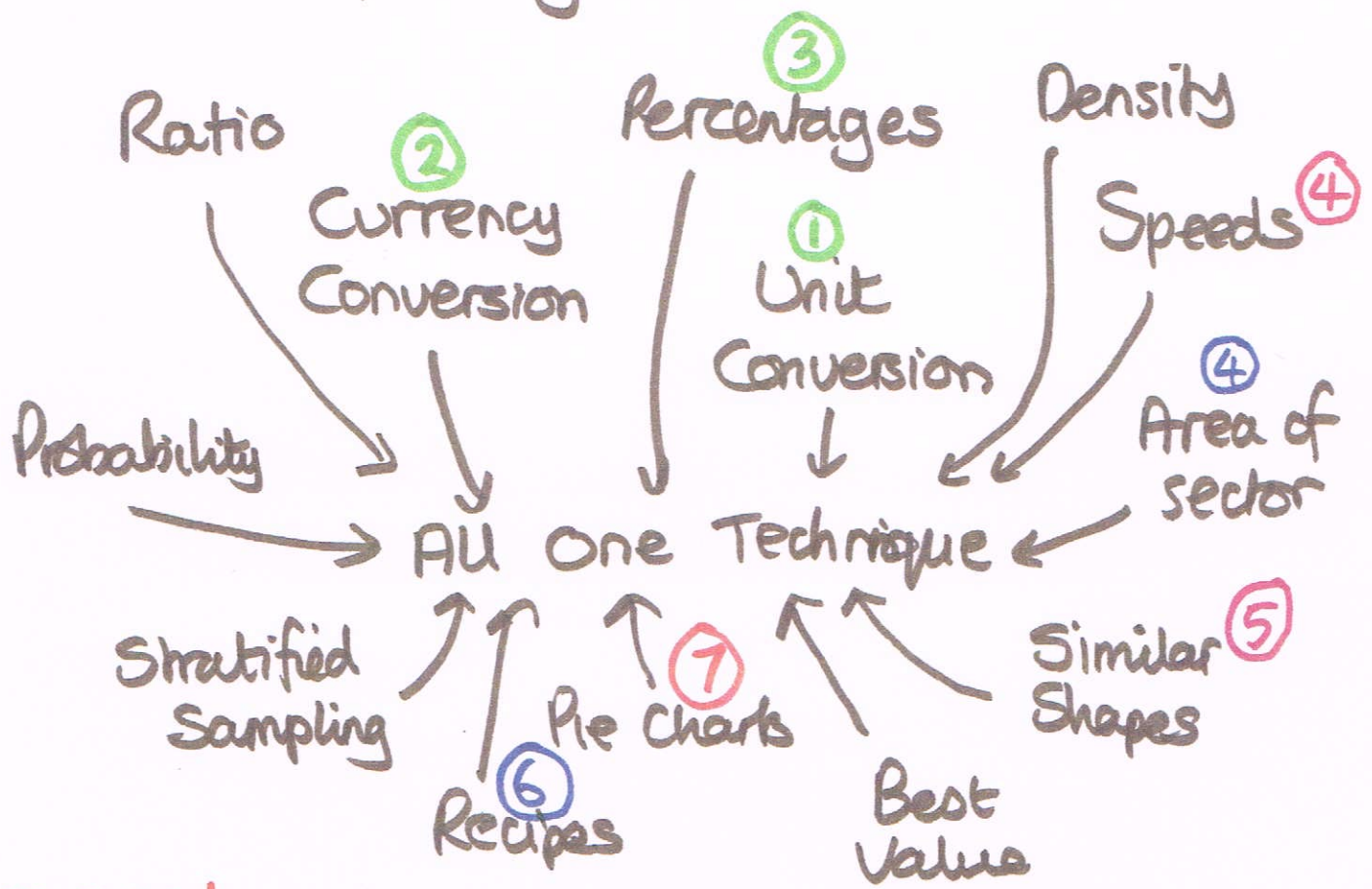


CROSS SUMS

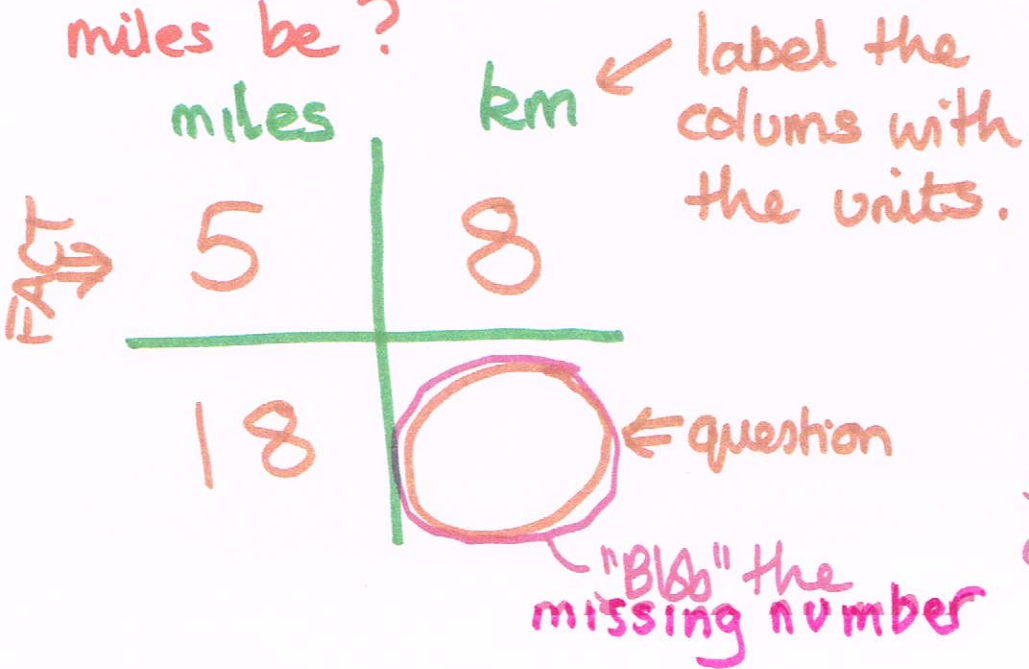
①

Allow proportional reasoning to be done more confidently.



example

Given 5 miles = 8km, what would 18 miles be?



Times Two Numbers, Divide by the other.
The Divider is the number OPPOSITE THE BLOB

miles	km
5	8
18	<input type="text"/>

$$18 \times 8 \div 5 = 28.8$$

Answer 28.8
Units km



CURRENCY CONVERSION

Given €1 = 70p, what would €60 be worth, in £?

€	£
1	0.70
60	<input type="text"/>

$$60 \times 0.70 \div 1 = \text{£} 42$$

Answer 42
Unit £

PERCENTAGES

3

A "4% increase" makes 100% (always where we start a % story) into 104%.

"Increase £42 by 4%" becomes:

£	%
£42	100%
	104%

← we start with £42
4% increase

$$104 \times 42 \div 100 = 43.68$$

Answer 43.68
Units £

"Profits Increase from £6600 to £7140 per year. What is the Percentage Increase?"

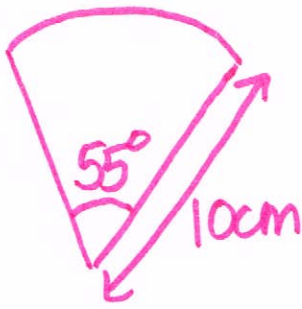
%	£
100	6600
108.2	7140

8.2% increase

$$100 \times 7140 \div 6600 = 108.18$$

The Answer is "8.2% increase"

(4)



Find the area of the sector.

Method: Find the area of the whole circle. $\text{Area} = \pi r^2$
 $= 100\pi = 314.158 \text{ cm}^2$

degrees	area cm^2
360	314.158
55	

$$55 \times 314.158 \div 360 = \underline{\underline{47.997 \text{ cm}^2}}$$

SPEEDS

A car drives 300 miles in $4\frac{1}{2}$ hours. What is the speed in miles per hour?

miles per hour means miles in ONE hour

miles	hours
300	$4\frac{1}{2}$
	1

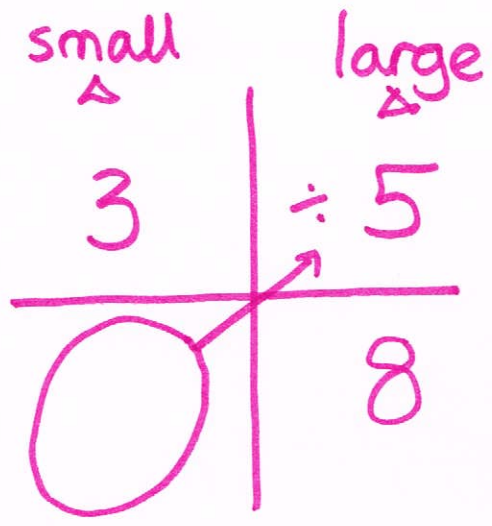
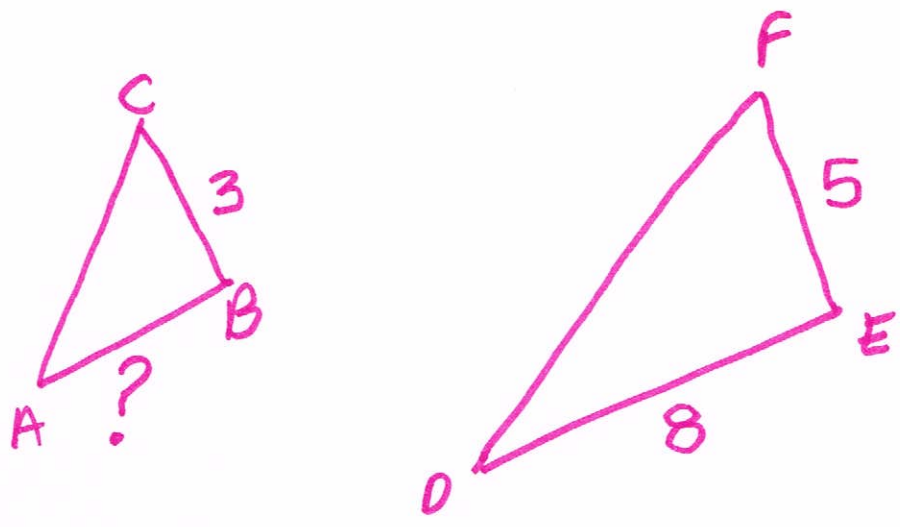
$$300 \times 1 \div 4.5 = 66.67 \text{ miles in one hour}$$

or 66.67 mph

5

Similar Triangles

These 2 triangles are similar. Find length AB.



$$3 \times 8 \div 5 = \underline{\underline{4.8\text{cm}}}$$

Recipes

6

120 pies require: 500g flour
 250g butter
 800g jam

What would 50 pies require?

pies	flour	butter	Jam
120	500	250	800
50	○	○	○

flour: $50 \times 500 \div 120 = 208.\bar{3}$

butter: (use "pies" column)
 $50 \times 250 \div 120 = 104.\bar{16}$





Jam: $50 \times 800 \div 120 = 333.\bar{3}$

this is very quick on a calculator because only one number needs to change for each new calculation

Pie Charts

7

Favorite Colours

	people	degrees
Red	12	
Blue	15	
Green	4	
Pink	9	
total	40	360

$$\text{Pink} : 9 \times 360 \div 40 = 81^\circ$$

$$\text{Green} : 4 \times 360 \div 40 = 36^\circ$$

$$\text{Blue} : 15 \times 360 \div 40 = 135^\circ$$

$$\text{Red} : 12 \times 360 \div 40 = 108^\circ$$

* Some students prefer to cover up the numbers that they are NOT using

$$\begin{array}{r|l} \text{Green} & 4 \quad \bigcirc \\ \hline \text{total} & 40 \quad 360 \\ \hline & \end{array} \quad \begin{array}{l} 4 \times 360 \\ \div 40 \\ = \end{array}$$