GCSE (9-1) Maths Revision Poster

Pearson Revise

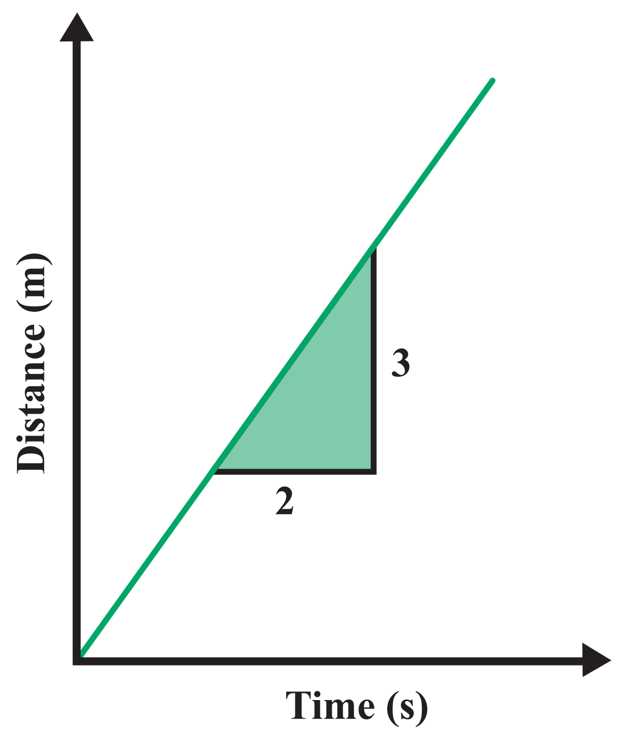
New Common Content to Foundation and Higher Tier #2 of 2

Interpreting the gradient of a straight line graph as a rate of change

R15

On a **distance–time** graph, the gradient represents speed.

This graph shows **3 metres** have been travelled in **2 seconds**, or **1.5 metres** in **1 second** = 1.5m/s



Know the exact values of sin θ and cos θ for θ = 0°, 30°, 45°, 60° and 90°; know the exact value of tan θ for θ = 0°, 30°, 45° and 60°

G21

angle θ	sin θ	cos θ	tan θ
0°	0	1	0
30°	$\frac{1}{2}$	$\frac{\sqrt{3}}{2}$	$\frac{1}{\sqrt{3}}$
45°	$\frac{1}{\sqrt{2}}$	$\frac{1}{\sqrt{2}}$	1
60°	$\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	$\sqrt{3}$
90°	1	0	

Use frequency trees to record, describe and analyse the frequency of outcomes of probability experiments

P1

Frequency trees show the actual **frequency** of different events.

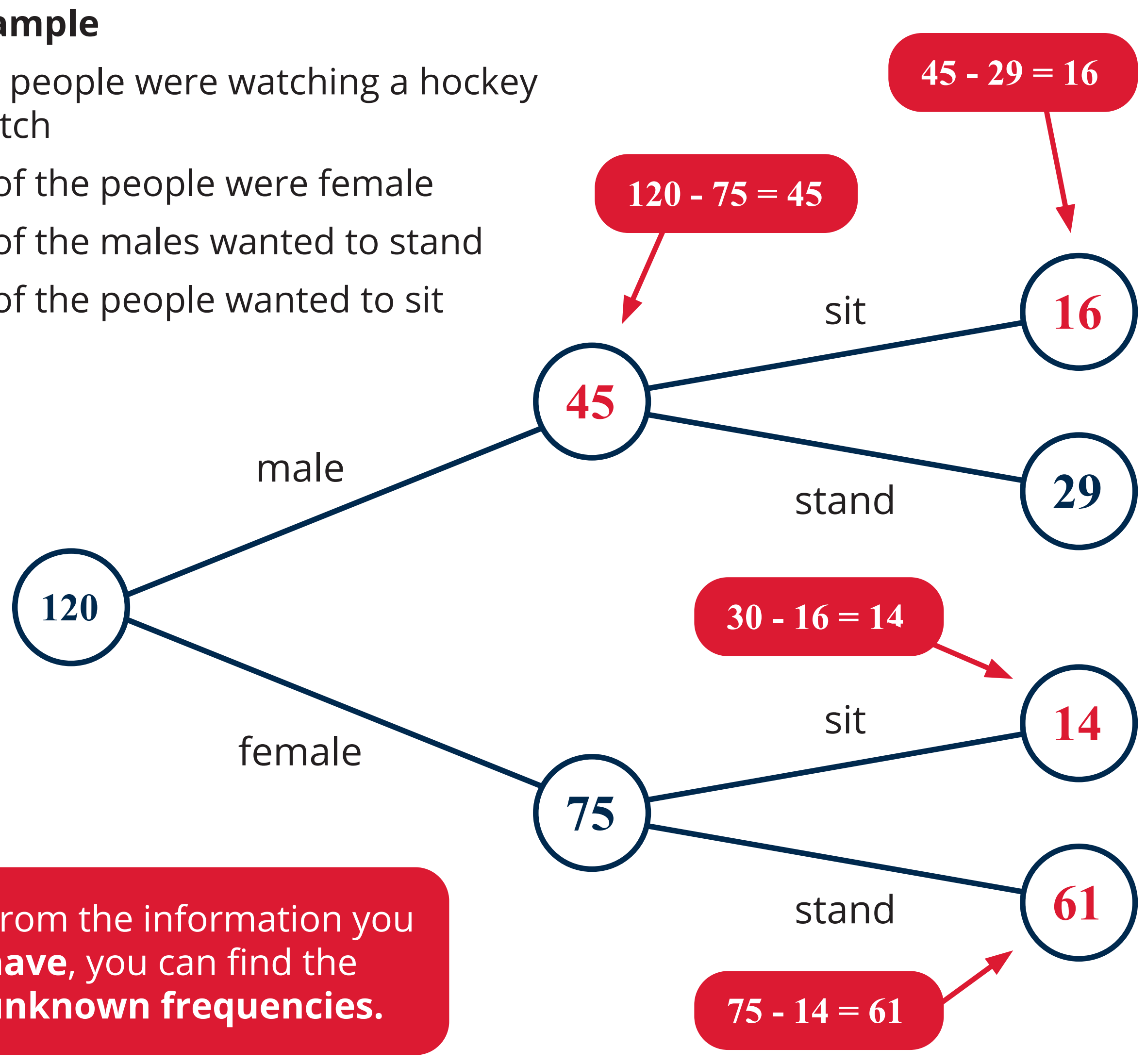
Example

120 people were watching a hockey match

75 of the people were female

29 of the males wanted to stand

30 of the people wanted to sit



From the information you **have**, you can find the **unknown frequencies.**

Use Venn diagrams to enumerate sets and combinations of sets systematically

P6

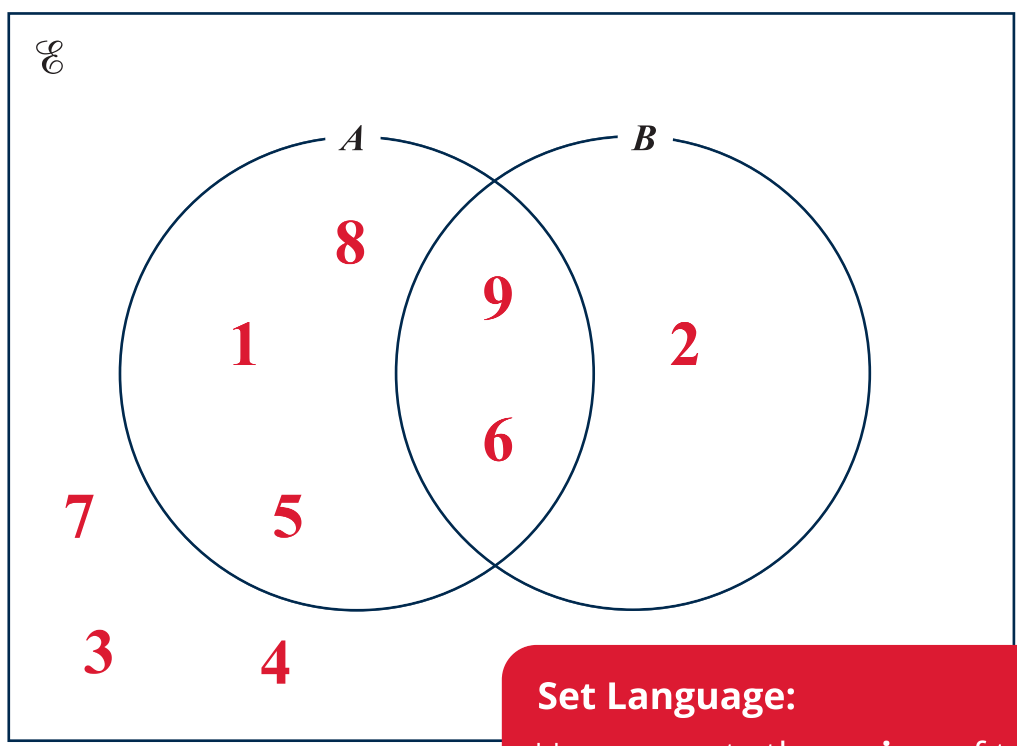
Venn diagrams can be used to **organise** data or numbers.

For Example:

$\mathscr{E} = \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$

$A = \{1, 5, 6, 8, 9\}$

$B = \{2, 6, 9\}$



Set Language:

∪ represents the **union** of two sets.

E.g. $A \cup B = \{1, 2, 5, 6, 8, 9\}$

∩ represents the **intersection** of two sets.

E.g. $A \cap B = \{6, 9\}$

A' represents the numbers that are not in A.

E.g. $A' = \{2, 3, 4, 7\}$

Express a multiplicative relationship between two quantities as a ratio or a fraction

R6

You can use information about the **relationship** between two quantities to find a ratio between them and write down some of the information as a fraction.

Example

There are only **blue cars** and **red cars** in a car park.

There are **twice** as many **red cars** than **blue cars** in the car park.

Therefore, as a ratio the number of **red cars** in the car park : the number of **blue cars** in the car park = **2 : 1**

and,

the fraction of the cars in the car park that are **red** is $\frac{2}{2+1} = \frac{2}{3}$

Use of the product rule for counting

N5

The **product rule for counting** says If there are m ways of doing one thing and for each of these, n ways of doing another thing, then the total number of ways the two things can be done is $m \times n$ ways.

Example

Tim has 9 t-shirts and 4 pairs of shorts in his wardrobe. How many outfit combinations of t-shirt and shorts can be selected?

→ $9 \times 4 = 36$

This rule can be extending for more than 2 categories.

E.g. 9 t-shirts, 4 pairs of shorts **and 5 caps**

→ $9 \times 4 \times 5 = 180$ combinations

R Ratio G Geometry P Probability N Number

PEUK A2630d