

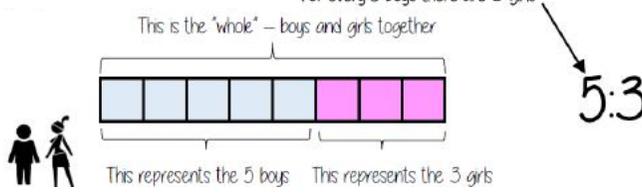
Section A: Vocabulary

Ratio	Compares the size of one part to another part.
Equivalent ratio	Two ratios which have the same value; they show the same relationship. One is a multiple of the other.
Proportion	Compares the size of one part to the size of the whole.
Best buy	Comparing the cost of the same number of items and the lowest price if the best value.
Percentage	Number of parts per 100.
Percentages change	Comparing the initial (or before) and final (after) quantities as a percentage.
Multiplier	A number you multiply a quantity by, to increase or decrease by a percentage.
Factor	A number that divides into another number without a remainder.
Variable	A symbol for a value we don't know yet. It is usually a letter like x or y
Conversion	A change in the form of a measurement, different units, without a change in the size or amount.
Approximation	Not exact, but close enough to be used
Enlargement	Enlarging a shape changes its size
Scale factor	The ratio of any two corresponding lengths in two similar geometric figures
Numerator	The top number in a fraction
Denominator	The bottom number in a fraction
Commutative	You can swap numbers around and still get the same answer when you add or multiply
Reciprocal	The reciprocal of a number is: 1 divided by the number. When we multiply a number by its reciprocal we get 1
Simplify	To simplify a fraction or ratio means to make it as simple as possible
Expression	Numbers, symbols and operators (such as + and ×) grouped together that show the value of something

Section B:

"For every 5 boys there are 3 girls"

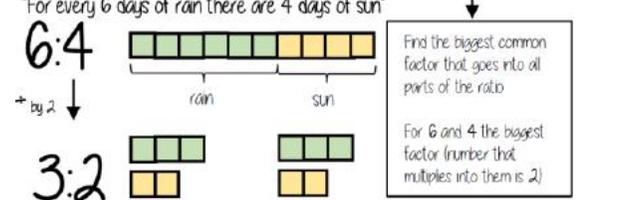
This is the "whole" – boys and girls together



5:3

"For every 6 days of rain there are 4 days of sun"

6:4

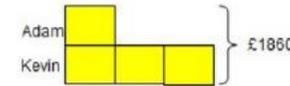


Find the biggest common factor that goes into all parts of the ratio

For 6 and 4 the biggest factor (number that multiples into them is 2)

3:2

Adam and Kevin share the running costs of the car in the ratio 1 : 3. Last year it cost £1860 to run the car. How much did Kevin pay?



£1860

For one part $1860 \div 4 = 465$

For 3 parts $465 \times 3 = 1395$

Increase £30 by 10%.

Method 1: Using a Ratio table

%	100	10	110
£	30	3	33

Method 2: Multiplier

$£30 \times 1.1 = £33$

Method 3: Bar Model



$$\text{percentage change} = \frac{\text{new} - \text{original}}{\text{original}} \times 100$$

Section C:

A TV costs £320 and it is reduced in the sale by 12%. What is the new price?

$100\% - 12\% = 88\%$



Original amount → £320 × 0.88 → Multiplier

Show the ratio 4:20 in the ratio of 1:n

The question states that this part has to be 1 unit. Therefore Divide by 4

4:20 → 1:5

This side has to be divided by 4 too – to keep in proportion

*If the n part does not have to be an integer for this type of question

$3 \times \frac{1}{3} = 1$

$\frac{1}{3} + \frac{1}{3} + \frac{1}{3} = 1$

The reciprocal of 3 is $\frac{1}{3}$ and vice versa

Multiply

Multiply the numerators and the denominators

$\frac{3}{5} \times \frac{2}{3} = \frac{3 \times 2}{5 \times 3} = \frac{6}{15}$

$\frac{6}{15}$ can be simplified to $\frac{2}{5}$

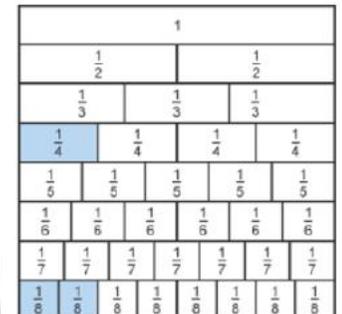
Divide

Flip the second fraction and then multiply

Work out $\frac{3}{5} \div \frac{2}{3}$

$\frac{3}{5} \times \frac{3}{2} = \frac{3 \times 3}{5 \times 2} = \frac{9}{10}$

Equivalent fractions are fractions that are worth **exactly the same**, even though they are written differently. $\frac{1}{4}$ is worth the same as $\frac{2}{8}$ because we can **simplify** to $\frac{1}{4}$ by dividing by a common factor of 2. This is very similar to simplifying ratio.

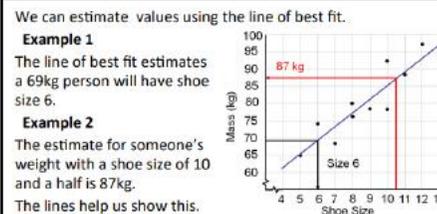
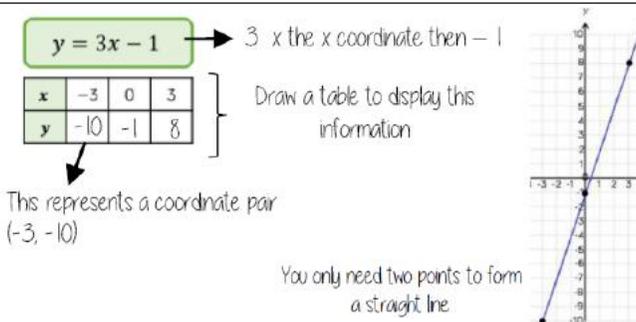
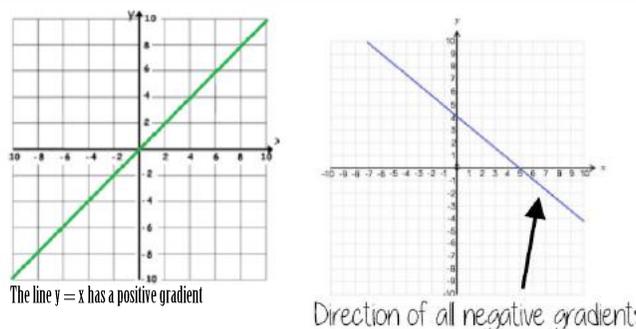
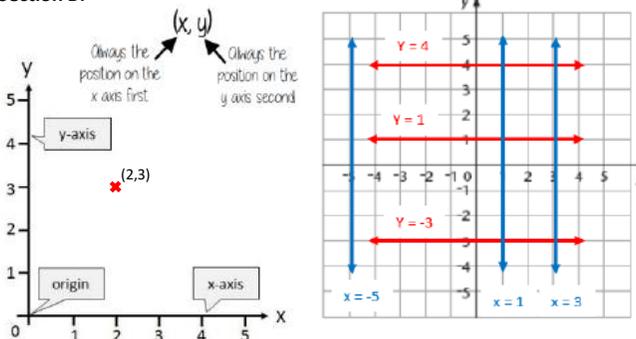



Revision QR Code for Corbett Maths which includes videos, worksheets and exam questions

Section A: Vocabulary

Quadrant	The 4 areas of the graph made when divided up using the x and y axis.
Origin	On a graph it is where the X axis and Y axis cross.
Axes	The "x" and "y" lines that cross at right angles to make a graph.
Parallel	Straight lines that are always the same distance apart and never touching.
Equation	An equation says that two things are equal.
Linear	Makes a straight line when graphed.
Substitute	Putting values where the letters are.
Gradient	How steep a line is.
Ascending	Arranged from smallest to largest. Increasing.
Descending	Arranged from largest to smallest. Decreasing.
Midpoint	The middle of. The point halfway along.
Correlation	When two sets of data are strongly linked together we say they have a strong correlation.
Line of best fit	A line on a graph showing the general direction that a group of points seem to follow.
Discrete	Data that can only take certain values.
Continuous	Data that can take any value (within a range).
Frequency	How often something happens.
Probability	The chance that something will happen. How likely it is that some event will occur.
Outcome	A possible result of an experiment.
Sample space	Shows all the possible outcomes of an experiment.
Biased	A built in error that makes all values wrong.
Intersection	The cross over on a Venn Diagram.
Union	The set made by combining the elements of two sets.
Product	The answer when two or more values are multiplied together.

Section B:



Revision QR Code for Corbett Maths

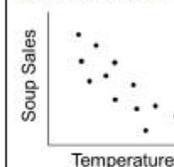


Section C:

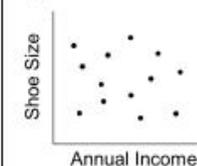
Positive — As one quantity increases so does the other.



Negative — As one quantity increases the other decreases.



No correlation Both quantities vary with no clear relationship.



Grouped data:

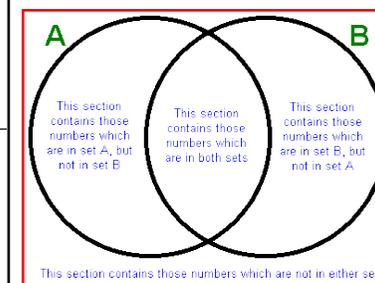
Number of Pets	Frequency
1-2	7
3-4	3
5-6	3
7-8	2

Weight, w, Kg	Frequency
$40 < w \leq 50$	2
$50 < w \leq 60$	15
$60 < w \leq 70$	18
$70 < w \leq 80$	10
$80 < w \leq 90$	2

Ungrouped data:

Number of Pets	Frequency
1	4
2	3
3	2
4	1
5	2
6	1
7	1
8	1

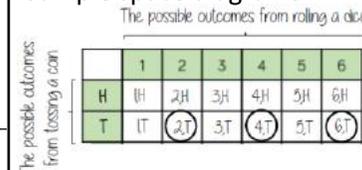
Venn diagrams:



Product Rule

The number of items in event a \times The number of items in event b

Sample space diagrams:



There are three even numbers with tails

$P(\text{Even number and Tails}) = \frac{3}{12}$

There are twelve possible outcomes

in between the () is the event asked for

Two-way tables:

	Car	Bus	Walk	Total
Boys	15	24	14	53
Girls	6	20	21	47
Total	21	44	35	100

The event

$P(\text{Girl walk to school}) = \frac{21}{100}$

The total in the set