

Ratio Tables

KS2 Expectations
Multiples and factors <ul style="list-style-type: none">• Relating multiplication & division as inverses
Scaling problems with measures <ul style="list-style-type: none">• With integer and unit fraction scale factors only – e.g., twice as long, half as tall
Scaling drawings and similarity <ul style="list-style-type: none">• Lengths, with integer and unit fraction scale factors only
Ratio <ul style="list-style-type: none">• Unequal sharing• In the form of ‘for every ..., there are ...’
Fractions <ul style="list-style-type: none">• Equivalent Fractions• Multiplication of an integer by unit fraction (integer product)• Multiplication of proper fractions• Division of a proper fraction by an integer

Ratio Tables	
Year 11	Using Graphs Multiply Reasoning
Year 10	Congruence, similarity & enlargement Trigonometry Ratios & Fractions
Year 9	Straight line graphs Using Percentages Maths and Money Enlargement & Similarity Ratio & Proportion Rates
Year 8	Ratio & Scale Multiplicative Change Fractions & Percentages Number Sense
Year 7	FDP Equivalence Multiplication & Division Fractions & Percentages of Amounts Construction & Measuring

We need the structure of the ratio table to be familiar to students, before using it with novel concepts or concepts they may not have fully grasped *yet*.

Resources for this are here: [Don Steward Task](#) [MathsBot](#)

Ratio Tables

Year 7

FDP Equivalence

- Use & interpret pie charts

90 students were asked if they wanted to attend a history trip.

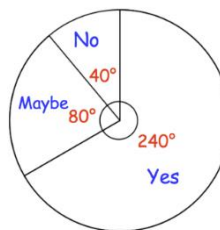
The results are shown in the pie chart.

How many students said No?

10

Students	Angle
90	360°
10	40°

Handwritten notes: ÷9 (vertical), ÷4 (horizontal), ÷4 (diagonal)



- Identify & use simple equivalent fractions

1	4
5	20

Handwritten notes: ×4 (horizontal), ÷5 (vertical), ×4 (diagonal)

$$\frac{1}{5} = \frac{4}{20}$$

Multiplication & Division

- Convert metric units

Change 350 millilitres to litres.

ml	L
1000ml	1L
350ml	0.35L

Handwritten notes: ÷1000 (horizontal), ×0.35 (diagonal)

m	km
1000m	1km
8000m	8km

Handwritten notes: ×1000 (horizontal), ×8 (diagonal)

Convert 8 kilometres into metres.

Fractions & Percentages of Amounts

- Find a fraction of a given amount

$\frac{3}{5}$ of 45

3	27
5	45

Handwritten notes: ×9 (horizontal), ÷5 (vertical), ×3 (diagonal), or ÷5 ×3 (diagonal)

- Find a percentage of a given amount using mental methods

25% of 16

%	amount
100%	16
25%	4

Handwritten notes: ×0.16 (horizontal), ÷4 (vertical), ×0.25 (diagonal), or ÷4 (diagonal)

30% of 70

%	amount
100%	70
10%	7
30%	21

Handwritten notes: ×0.7 (horizontal), ÷10 (vertical), ×3 (diagonal), ×0.3 (diagonal), building to

Construction & Measuring

- Draw pie charts

Colour	Frequency
Blue	25
Green	15
Red	20

Frequency	Angle
25	150°
15	90°
20	120°
Total 60	360°

Handwritten notes: ×6 (horizontal), ÷4 (vertical), ×3 (diagonal), ×6 (diagonal)

Year 8

Ratio & Scale

- Express ratios in their simplest integer form

30 : 10

3 : 1

30	10
3	1

Handwritten annotations: $\div 10$ (vertical arrows), $\times 3$ (horizontal arrows), $\div 10$ (vertical arrows), $\times 3$ (horizontal arrows)

- Solve problems involving the ratio m:n

The ratio of adults to children at a cricket match is 7:3. There 150 people at the match. How many children attended the cricket match?

45

Adults	7	105
Children	3	45
Total	10	150

Handwritten annotations: $\times 15$ (horizontal arrows), $\times 0.3$ (vertical arrows), $\times 0.3$ (vertical arrows), $\times 15$ (horizontal arrows)

Apples	2	5
Oranges	6	15

Handwritten annotations: $\times 2.5$ (horizontal arrow), $\times 3$ (vertical arrows), $\times 2.5$ (horizontal arrow)

James has some apples and oranges. The ratio of apples and oranges is 2:5. He has 15 oranges. How many apples does James have?

6

The ratio of Mollie's age to Heather's age is 4:9. Heather is 40 years older than Mollie. How old is Mollie?

32

Mollie	4	32
Heather	9	72
Difference	5	40

Handwritten annotations: $\times 8$ (horizontal arrow), $\times 8$ (vertical arrows), $\times 8$ (vertical arrows), $\times 8$ (horizontal arrow)

- Express ratios in the form 1: n and n:1

15 : 10

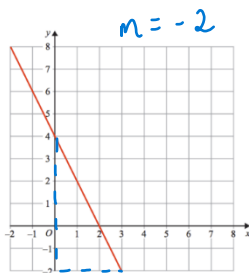
15	10
1	0.6

Handwritten annotations: $\times \frac{2}{3}$ (horizontal arrow), $\div 15$ (vertical arrows), $\times \frac{2}{3}$ (horizontal arrow)

15	10
1.5	1

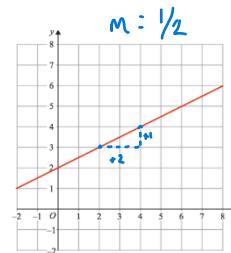
Handwritten annotations: $\div 10$ (vertical arrows), $\div 10$ (vertical arrows)

- Understand gradient of a line as a ratio (H)



Δy	Δx
+1	+2
$\frac{1}{2}$	1

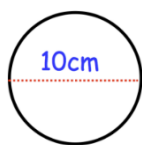
Handwritten annotations: $\div 2$ (vertical arrows), $\div 2$ (vertical arrows)



Δy	Δx
-6	+3
-2	1

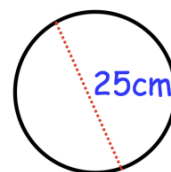
Handwritten annotations: $\div 3$ (vertical arrows), $\div 3$ (vertical arrows)

- Understand π as the ratio between diameter and circumference



D	C
10	10 π
25	25 π

Handwritten annotations: $\times \pi$ (horizontal arrow), $\times 2.5$ (vertical arrows), $\times \pi$ (horizontal arrow)



Ratio Tables

Multiplicative Change

- Solve problems involving direct proportion

5 scoops of ice cream costs £4.50. How much would it cost for:

- 10 scoops
- 1 scoop
- 8 scoops
- 9 scoops

No of scoops	Price
5	£4.50
10	£9.00
1	£0.90
8	£7.20
9	£8.10

Handwritten annotations: $\times 2$ (5 to 10), $\div 5$ (5 to 1), $\times 8$ (5 to 8), $\times 9$ (5 to 9), $\times 0.9$ (5 to 9), $\times 2$ (4.50 to 9.00), $\div 5$ (4.50 to 0.90), $\times 8$ (4.50 to 7.20), $\times 9$ (4.50 to 8.10), $\times 10$ (0.90 to 9.00), $\times 10$ (0.90 to 9.00), $\times 10$ (0.90 to 9.00).

serves 4
300ml double cream
320ml milk
120g caster sugar
1 vanilla pod

8 people?

	4	8
DC	300	600
M	320	640
CS	120	240
VP	1	2

Handwritten annotations: $\times 2$ (4 to 8), $\times 2$ (300 to 600), $\times 2$ (320 to 640), $\times 2$ (120 to 240), $\times 2$ (1 to 2).

3 people?

	4	3
DC	300	225
M	320	240
CS	120	90
VP	1	3/4

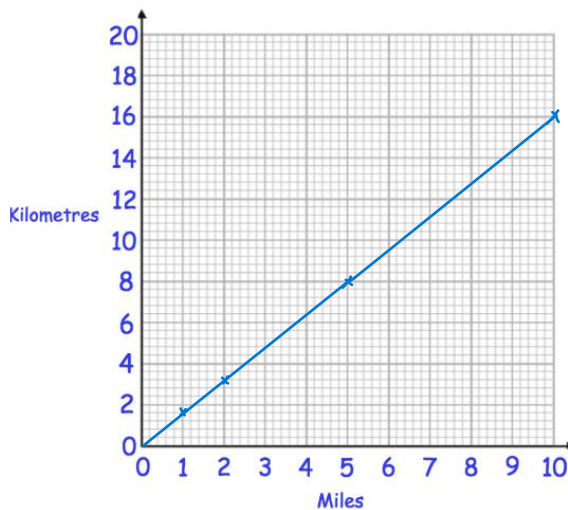
Handwritten annotations: $\times 3/4$ (4 to 3), $\times 3/4$ (300 to 225), $\times 3/4$ (320 to 240), $\times 3/4$ (120 to 90), $\times 3/4$ (1 to 3/4).

- Explore conversion graphs

Use the fact 5 miles = 8 kilometres to draw a conversion graph on the grid.

miles	km
5	8
10	16
1	1.6
2	3.2

Handwritten annotations: $\times 1.6$ (5 to 8), $\times 1.6$ (10 to 16), $\times 1.6$ (1 to 1.6), $\times 1.6$ (2 to 3.2), $\times 2$ (5 to 10), $\times 2$ (8 to 16), $\div 10$ (5 to 1), $\div 10$ (8 to 0.8), $\times 2$ (0.8 to 1.6), $\times 2$ (1.6 to 3.2).



- Convert between currencies

£1	5 Zloty
£120	600 Zloty

Handwritten annotations: $\times 5$ (£1 to 5 Zloty), $\times 5$ (£120 to 600 Zloty), $\times 120$ (£1 to £120), $\times 120$ (5 Zloty to 600 Zloty).

George is going on holiday to Poland

George changes £120 into Zloty.
The exchange rate is £1 = 5 Zloty

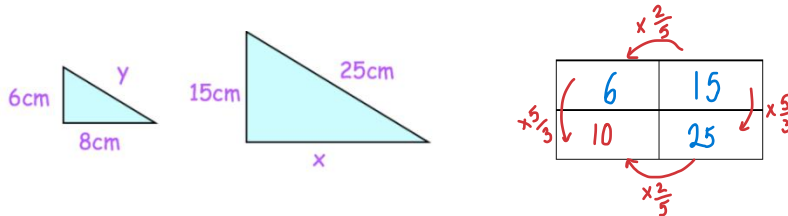
Ratio Tables

- Ratio between similar shapes

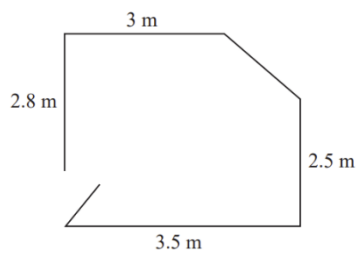
6	15
8	20

$\times \frac{5}{2}$ (top), $\times \frac{4}{3}$ (left), $\times \frac{4}{3}$ (right), $\times \frac{5}{2}$ (bottom)

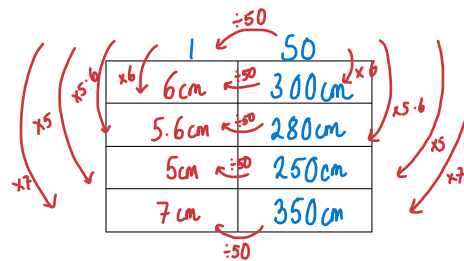
- Understand scale factors as multiplicative representations



Draw & interpret scale diagrams



Draw a plan of this room using a scale of 1 : 50.



- Interpret maps using scale factors and ratios

A map has a scale of 1:4000

On the map, the distance between two houses is 9cm.

What is the actual distance between the houses?
Give your answer in metres.

1	4000
9cm	36000cm
9cm	360m

$\times 4000$ (top), $\times 9$ (left), $\times 9$ (right)

Fractions & Percentages

- Calculate percentage increase & decrease using a multiplier

Increase 80ml by 9%

100%	80ml
109%	87.2ml

$\times 1.09$ (left), $\times 1.09$ (right)

Decrease 40 by 10%

40	100%
36	90%

$\times 0.9$ (left), $\times 0.9$ (right)

- Express one number as a fraction or percentage of another

Write £6 as a fraction of £8 **75%**

6	75
8	100

$\times 12.5$ (top), $\times \frac{3}{4}$ (left), $\times \frac{3}{4}$ (right), $\times 12.5$ (bottom)

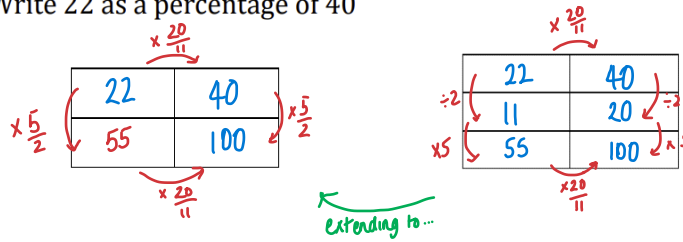
Write 5cm as a percentage of 20cm **25%**

5	25
20	100

$\times 5$ (top), $\times 4$ (left), $\times 4$ (right), $\times 5$ (bottom)

Ratio Tables

Write 22 as a percentage of 40



- Work with percentage change

Difference	Original
16	40
40	100

Handwritten annotations: $\times \frac{5}{2}$ on the left and right sides of the table.

A car is travelling at 40 kilometres per hour.
The car increases its speed to 56 kilometres per hour.
Calculate the percentage increase in the speed of the car.

- (H) Find the original amount given the percentages < 100%

20% of all the children in a class are left handed.
4 children are left handed.
How many children are there in the class altogether?

20%	4
100%	20

Handwritten annotations: $\div 5$ above the table, $\times 5$ on the left and right sides, and $\div 5$ below the table.

- (H) Find the original amount given the percentages > 100%

Heather invested money into a savers bank account.
Each year the money in the account earns 10% interest.
After one year, the total amount of money in the account was £2200
How much did Heather invest?

110%	£2200
10%	£200
100%	£2000

Handwritten annotations: $\div 11$ on the left, $\times 10$ on the right, and $\div 10$ below the table.

Number Sense

- Convert metric units of area & volume

Convert 6.3 m^2 to cm^2

1 m^3	1000000 cm^3
0.4 m^3	400000 cm^3

Handwritten annotations: $\times 100^3$ above and below the table.

1 m^2	10000 cm^2
6.3 m^2	63000 cm^2

Handwritten annotations: $\times 100^2$ above the table, $\times 6.3$ on the left and right sides, and $\times 100^2$ below the table.

Convert 0.4 m^3 into cm^3

Year 9

Straight line graphs

- Compare gradient
See Year 8 in Ratio & Scale – Understand gradient of a line as a ratio (H)

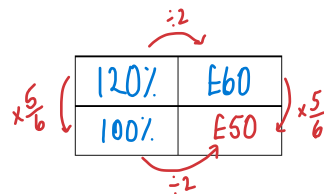
Using Percentages

- Solve reverse percentage problems
See Year 8 in Fractions & Percentages – (H) Find the original amount given the percentages < 100% and > 100%

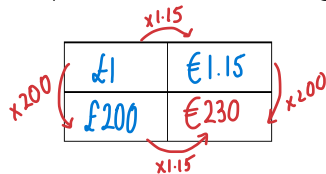
Maths and Money

- Solve problems with Value Added Tax

Sinead buys a watch.
20% VAT is added to the price of the watch.
Sinead then has to pay a total of £60
What is the price of the watch with no VAT added?

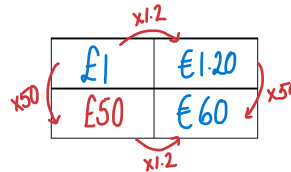


- Solve problems with exchange rates



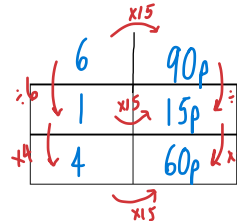
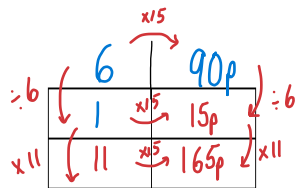
Annie is going on holiday to Spain.
The exchange rate is £1 = €1.15
She changes £200 into euros (€)
How many euros does she receive?

Annie comes back from holiday with €60
and changes these back into pounds.
The exchange rate is now £1 = €1.20
Work out how many pounds Annie receives.



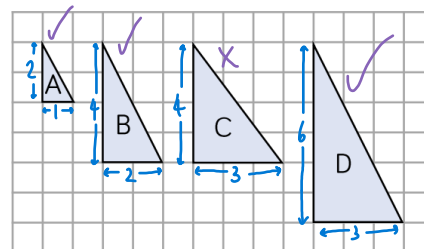
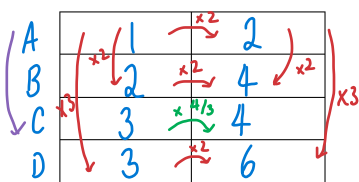
- Solve unit pricing problems

Kate buys 6 pencils for 90p.
How much do 11 pencils cost?
How much do 4 pencils cost?



Enlargement & Similarity

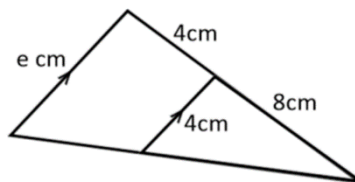
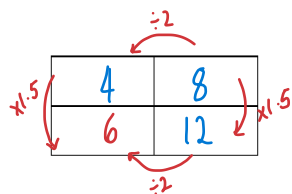
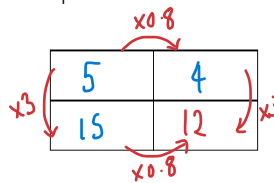
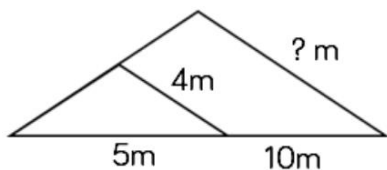
- Recognise enlargement & similarity



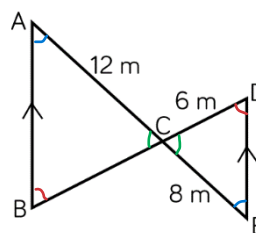
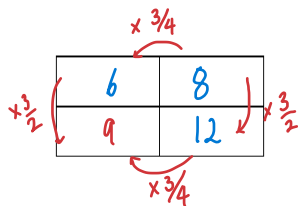
Which triangles are similar?

Ratio Tables

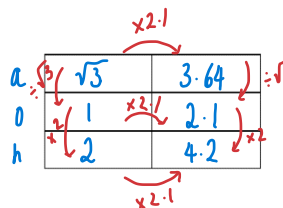
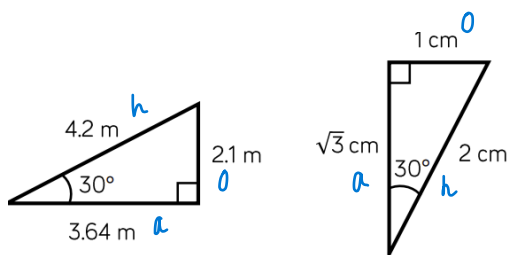
- Work out missing sides in a pair of similar shapes



- (H) Solve problems with similar triangles

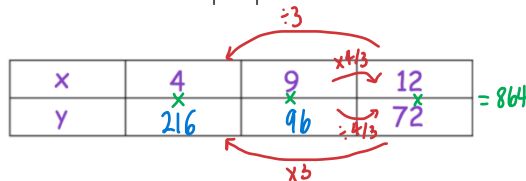


- Explore ratios in right-angled triangles (H)



Solving ratio & proportion problems

- Solve problems with inverse proportion

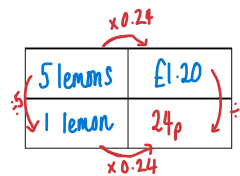
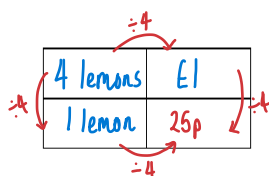


- Solve 'best buy' problems

See Year 9 in Maths & Money – solve unit pricing problems

Supermarket 4 lemons for £1	Greengrocer A bag of 5 lemons £1.20 per bag.
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How much is one lemon from the supermarket?
 How much is one lemon from the greengrocer?
 Which offers better value for money?



Ratio Tables

Rates

- Speed, distance & time

A lorry travels 120 miles in 3 hours
40mph

120 miles	3 hours
40 miles	1 hour

Handwritten annotations: $\times 40$ (top), $\div 4$ (left), $\div 4$ (right), $\times 40$ (bottom)

63 miles	1hr 30mins
21 miles	30mins
42 miles	1 hour

Handwritten annotations: $\times 42$ (top), $\div 3$ (left), $\div 3$ (right), $\times 2$ (bottom), $\times \frac{2}{3}$ (left), $\times \frac{2}{3}$ (right)

A car travels 63 miles in 1 hour 30 minutes
42mph

A car travels at a speed of 44mph for 15 minutes.

44 miles	1 hour
11 miles	15 mins

Handwritten annotations: $\div 4$ (left), $\div 4$ (right)

50 miles	1 hour
250 miles	5 hours

Handwritten annotations: $\div 50$ (top), $\times 5$ (left), $\times 5$ (right), $\div 50$ (bottom)

A lorry drives 250 miles at a speed of 50 mph.

A car travels 100 miles at a speed of 40mph.

40 miles	1 hour
20 miles	0.5 hrs
100 miles	2.5 hrs

Handwritten annotations: $\div 40$ (top), $\times \frac{5}{2}$ (left), $\div 2$ (right), $\times 5$ (bottom), $\times \frac{5}{2}$ (right)

- Density, mass & volume

A piece of wood has a mass of 7g and a volume of 10cm³
0.7g/cm³

7g	10 cm ³
0.7g	1 cm ³

Handwritten annotations: $\div 10$ (left), $\div 10$ (right)

A statue with a volume of 120cm³ made from ceramic which has a density of 2g/cm³.
240g

2g	1 cm ³
240g	120 cm ³

Handwritten annotations: $\div 2$ (top), $\times 120$ (left), $\times 120$ (right), $\div 2$ (bottom)

0.4g	1 cm ³
50g	125 cm ³

Handwritten annotations: $\div 0.4$ (top), $\times 125$ (left), $\times 125$ (right), $\div 0.4$ (bottom)

A 50g piece of wood which has a density of 0.4g/cm³
125 cm³

- Rates of change and their units

Scott types at an average rate of 40 words per minute.

How many words can Scott type in three-quarters of an hour?
How long will it take Scott to type a 10 000 word essay?

40 words	1 min
1800 words	45 mins
10,000 words	250 mins

Handwritten annotations: $\div 40$ (top), $\times 45$ (left), $\times 45$ (right), $\div 40$ (bottom)

1800 words

250 mins

Ratio Tables

- (H) Convert compound units

Change the following speeds into metres per second.

360km/h

100m/s

360 km	1 hour
360 km	60 mins
6 km	1 min
6000 m	60 sec
100 m	1 sec

10 km	1 hour
10 000 m	60 mins
166.6 m	1 min
166.6 m	60 secs
2.7 m	1 sec

10 km/h

2.7 m/s

Convert 5km/h into m/s.

5 km	1 hour
5000 m	60 mins
83.3 m	1 min
83.3 m	60 sec
1.38 m	1 sec

Year 10

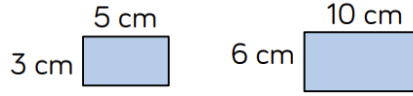
Congruence, similarity & enlargement

- (H) Explore areas of similar shapes

(2^2)

3×5	15
6×10	60

$\times 2$ (vertical), $\times 2$ (horizontal), $\times 2^2$ (diagonal)



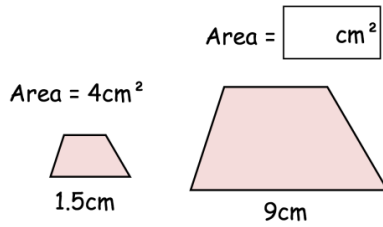
Extending to...

Length	Area
3	15
6	60

$\times 2$ (vertical), $\times 2$ (horizontal), $\times 2^2$ (diagonal)

Length	Area
5	15
10	60

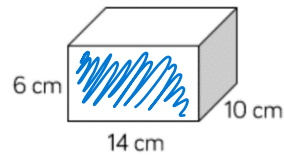
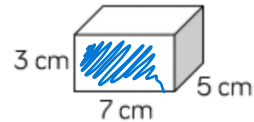
$\times 2$ (vertical), $\times 3$ (horizontal), $\times 6$ (diagonal)



Length	Area
1.5	4
9	324

$\times 6$ (vertical), $\times 6$ (horizontal), $\times 6^2$ (diagonal)

- (H) Explore volumes of similar shapes



Extending to...

$3 \times 5 \times 7$	105
$6 \times 10 \times 14$	840

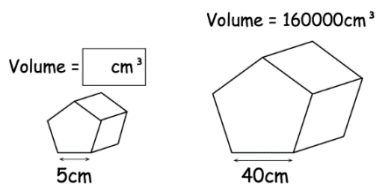
$\times 2 \times 2 \times 2$ (vertical), $\times 2 \times 2 \times 2$ (horizontal), $\times 2^3$ (diagonal)

Length	Volume
3	105
6	840

$\times 2$ (vertical), $\times 2$ (horizontal), $\times 2^3$ (diagonal)

Area of CS	Volume
21	105
84	840

$\times 4$ (vertical), $\times 2$ (horizontal), $\times 2^3$ (diagonal)



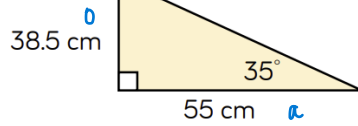
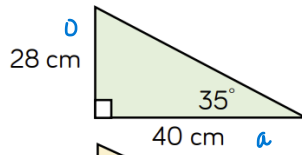
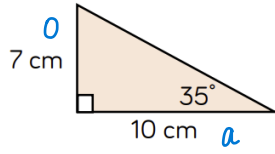
Length	Volume
5	20,000
40	160,000

$\times 8$ (vertical), $\times 8$ (horizontal), $\times 4000$ (diagonal)

Ratio Tables

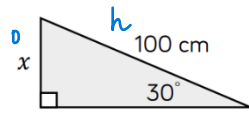
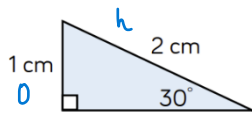
Trigonometry

- Explore ratios in similar right-angled triangles



	7	10
$\times 4$	28	40
$\times 5.5$	38.5	55

$\times 0.7$



	1	2
$\times 50$	50	100

$\div 2$

Ratio Table:

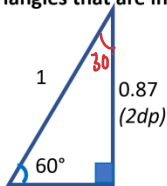
$\sin \theta$ is the relationship between the opposite and hypotenuse
 $\sin \theta$ is the ratio, giving us the opposite when the hypotenuse is 1

Hypotenuse	1	2	10	5	50				
Opposite	0.87	1.74	8.7	4.35	43.5				

$0.87:1$ $\times 0.87$

$\sin(60)$

Draw, at least, two more right angled triangles that are in the $\sin(60)$ family:



Challenge: How can we use this relationship to find the ratio of $\cos(30)$?

Ratio Tables

Collecting, representing & interpreting data

- Construct a stratified sample (H)

The table shows information about the inhabitants of a village.

Age	Population Size
0 - 20	70
21 - 40	80
41 - 60	40
Over 60	10
Total	200

Handwritten calculations for the table:

- 70 $\div 5 = 14$
- 80 $\div 5 = 16$, then $16 \div 2 = 8$
- 40 $\div 5 = 8$, then $8 \div 4 = 2$
- 10 $\div 5 = 2$, then $2 \times 20 = 40$
- Total: $14 + 16 + 8 + 2 = 40$, then $40 \times 5 = 200$

Henry takes a stratified sample of 40.

Work out the number of each age group that Henry should choose.

- Capture-Recapture method

Hannah wants to estimate the number of eels in a lake.

She catches and rings 50 eels.

She returns the 50 eels to the lake.

The next day Hannah catches 400 eels.

Of these 400 eels, 10 are ringed.

50	10
2000	400

Handwritten calculations for the capture-recapture table:

- Top row: $50 \times 5 = 2000$, $10 \times 5 = 50$
- Bottom row: $2000 \div 40 = 50$, $400 \div 40 = 10$

Work out an estimate for the total number of eels in the lake.

Ronan wants to estimate the number of honey bees in a beehive.

On Wednesday, Ronan catches 660 honey bees from the beehive.

He marks the honey bees and then releases them.

On Thursday, Ronan catches 400 honey bees and notes how many were marked.

Ronan then calculates his estimate as 22,000 honey bees in the beehive.

How many of the 400 honey bees caught on Thursday were marked?

660	12
22,000	400

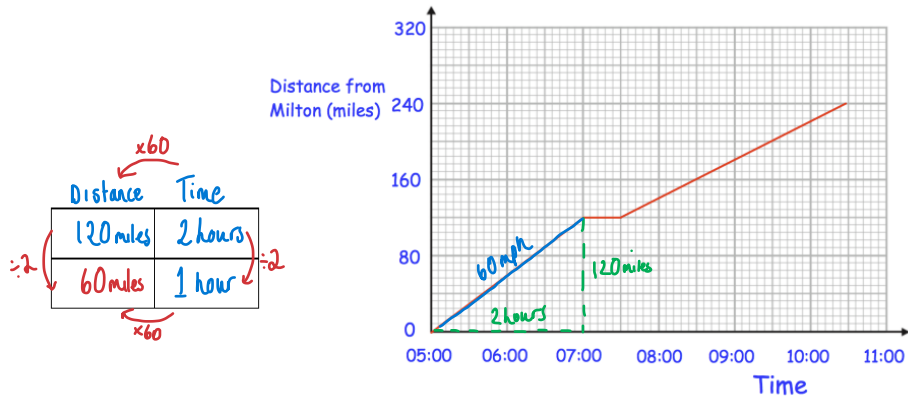
Handwritten calculations for the capture-recapture table:

- Top row: $660 \div 55 = 12$, $12 \times 55 = 660$
- Bottom row: $22,000 \div 55 = 400$, $400 \div 55 = 7.27$

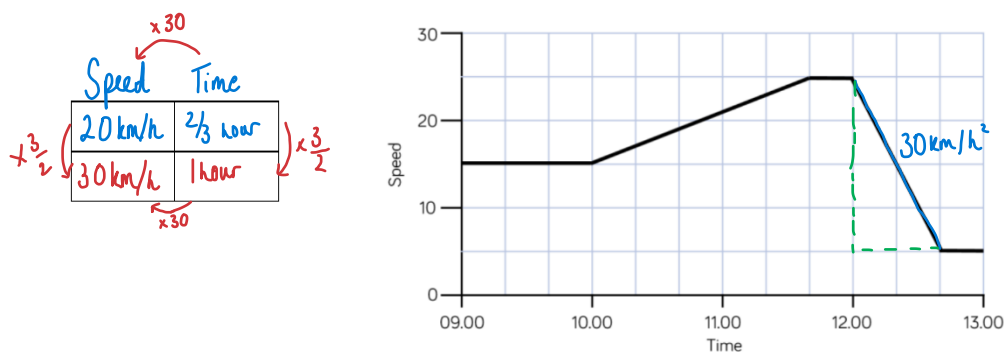
Year 11

Using Graphs

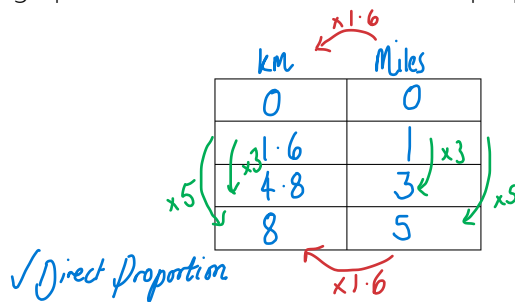
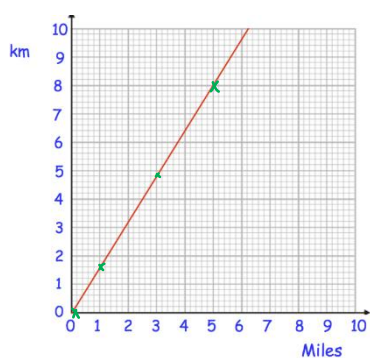
- Contrast & interpret distance/time graphs



- Construct & interpret speed/time graphs



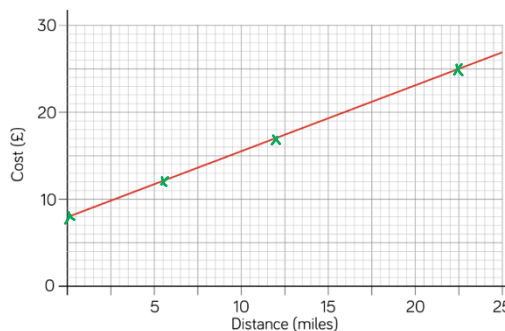
- Recognise and interpret graphs that illustrate direct & inverse proportion



Cost	Distance
£8	0 miles
£12	5.5 miles
£17	12 miles
£25	22.5 miles

Handwritten notes: x1.6 (left), x1.6 (right), x1.6 (bottom)

X Direct Proportion



Ratio Tables

Multiplicate reasoning

- Understand direct proportion

A is directly proportional to B.

When $A = 12$, $B = 3$

- Find a formula for A in terms of B.
- Find the value of A when $B = 5$
- Find the value of B when $A = 36$

A	B
12	3
20	5
36	9
48	B

Handwritten annotations: $\times 4$ (A to B), $\times 3$ (B to 5), $\times 4$ (A to 48), $\times 4$ (B to 9)

W	P^3
32	8
256	64
4000	1000
$4P^3$	P^3

Handwritten annotations: $\times 4$ (W to 32), $\times 8$ (P^3 to 8), $\times 8$ (W to 256), $\times 8$ (P^3 to 64), $\times 8$ (W to 4000), $\times 8$ (P^3 to 1000)

-
-
-

W is directly proportional to P^3 .

When $P = 2$, $W = 32$

- Express W in terms of P $W = P^3$
- What is the value of W when $P = 4$? 256
- What is the value of P when $W = 4000$? $\sqrt[3]{4000} = 10$

- Understand inverse proportion

T is inversely proportional to N.

When $T = 30$, $N = 5$.

- Find an equation connecting T and N. $TN = 150$
- Work out the value of T when $N = 10$ 15
- Work out the value of N when $T = 25$ 6

T	N	
30	5	= 150
15	10	= 150
25	6	= 150
T	N	= 150

Handwritten annotations: $\div 2$ (T to 15), $\times 2$ (N to 10), $\div 5$ (T to 25), $\times 6$ (N to 6)

The force, F newtons, exerted by a magnet on a metal object is inversely proportional to the square of the distance d cm

When the $d = 2$ cm, $F = 60$ N

- Express F in terms of d $F = \frac{240}{d^2}$
- Find the force when the distance between the magnet and the metal object is 10cm 2.4 N
- Find the distance between the magnet and the metal object when the force is 15N 4 cm

F	d^2	
60	4	= 240
2.4	100	= 240
15	16	= 240
$\frac{240}{d^2}$	d^2	= 240

Handwritten annotations: $\div 4$ (F to 15), $\times 4$ (d^2 to 16), $\times 25$ (d^2 to 100)

Ratio Tables

- Density

A piece of wood has a mass of 7g and a volume of 10cm³
 0.7g/cm^3

Mass	Volume
7g	10cm ³
0.7g	1cm ³

Handwritten annotations: $\div 10$ (left), $\div 10$ (right), $\times 0.7$ (top), $\times 0.7$ (bottom)

A statue with a volume of 120cm³ made from ceramic which has a density of 2g/cm³.

Mass	Volume
2g	1cm ³
240g	120cm ³

Handwritten annotations: $\div 2$ (top), $\times 120$ (left), $\times 120$ (right), $\div 2$ (bottom)

240g

Mass	Volume
0.4g	1cm ³
50g	125cm ³

Handwritten annotations: $\div 0.4$ (top), $\times 125$ (left), $\times 125$ (right), $\div 0.4$ (bottom)

A 50g piece of wood which has a density of 0.4g/cm³

- Pressure

A box is placed on a table and exerts a force of 250N on an area of 20cm²
 12.5N/m^2

Force	Area
250N	20cm ²
12.5N	1cm ²

Handwritten annotations: $\times 12.5$ (top), $\div 20$ (left), $\div 20$ (right), $\times 12.5$ (bottom)

The area of contact is 16cm² and the pressure exerted is 10N/cm²

Force	Area
10N	1cm ²
160N	16cm ²

Handwritten annotations: $\times 10$ (top), $\times 16$ (left), $\times 16$ (right), $\times 10$ (bottom)

160N

The object exerts a force of 420N on the floor and the pressure on the floor is 20N/cm²

Force	Area
20N	1cm ²
420N	21cm ²

Handwritten annotations: $\div 20$ (top), $\times 21$ (left), $\times 21$ (right), $\div 20$ (bottom)