Year 11 Examinations Night

FRED LONGWORTH
HIGH SCHOOL

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Aims for the evening:

- To provide you and your child with specific revision strategies for core subjects to be used in the final approach to the examinations;

- To offer practical advice to parents for helping your child to complete effective revision;

- To provide an opportunity to answer your questions and discuss any concerns you may have.

Year 11 Examinations Night

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Maths Foundation Tier Revision

Exam dates…

Paper 1 : Friday 19th May 2023

Paper 2 : Tuesday 6th June 2023

Paper 3 : Wednesday 14th June 2023

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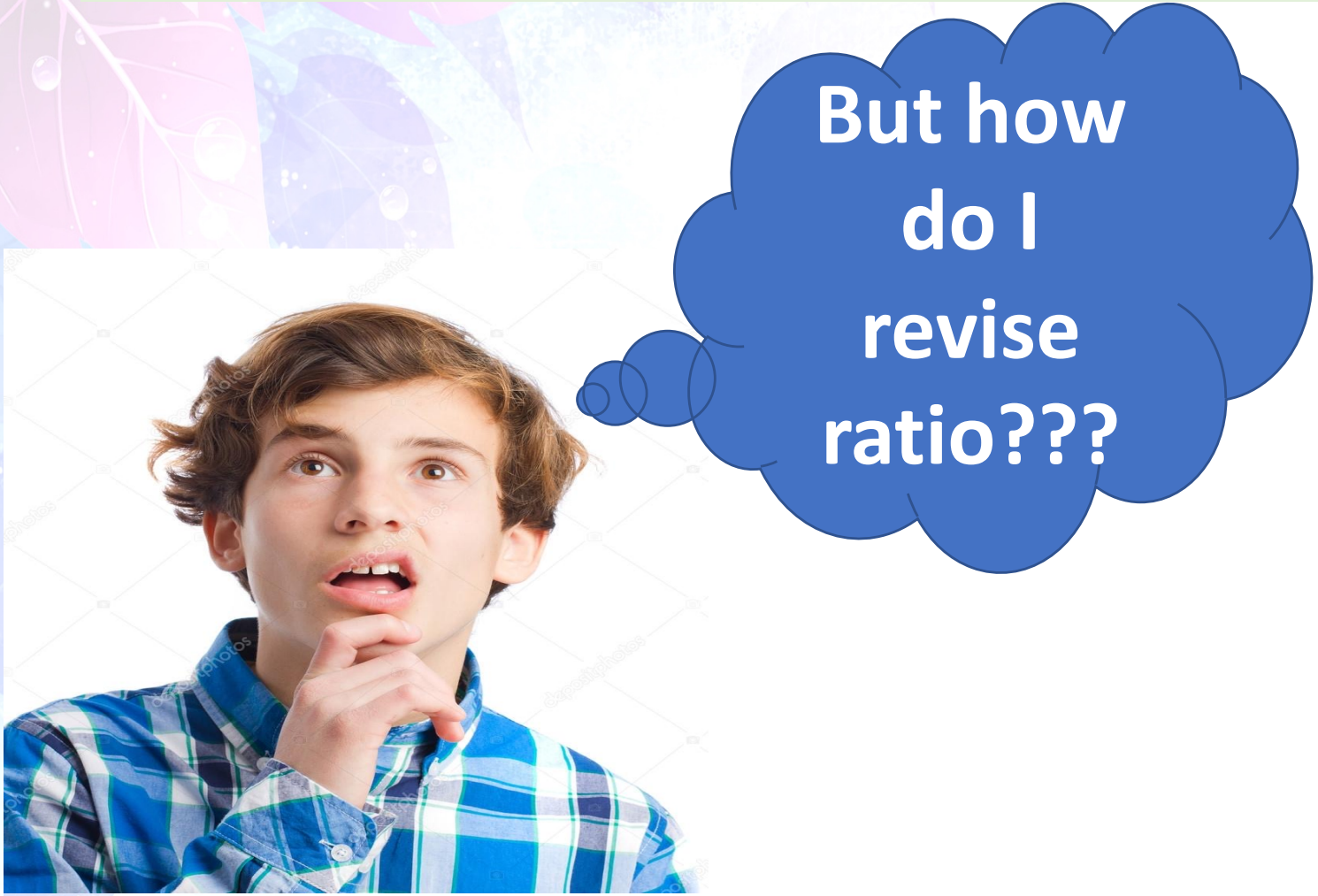
Let's pick a topic: RATIO



What can you do to help?

- Remember there are so many maths resources already done and videos to watch. (We will go through)

- Encourage your child to use the topic list and focus on topics they find **DIFFICULT**.

- Use resources with answers so you can **check** together.

Ratio Revision...

Mathsgenie : Ratio search...

Generates 16 different questions, all GCSE style instantly.

All **answers** to the questions with working out to check!

Grade 3

Videos	Exam Questions	Exam Questions Booklet	Solutions
Writing and Simplifying Ratio	Exam Questions	Writing and Simplifying Ratio	Solutions
Ratio	Exam Questions	Sharing Ratio	Solutions

Grade 5

Videos	Exam Questions	Exam Questions Booklet	Solutions
Writing a Ratio as a Fraction or Linear Function	Exam Questions	Ratio Fraction Problems	Solutions
	Exam Questions	Ratio Problems 2	Solutions

Ratio Revision...

Corbettmaths : Ratio search...

Practice questions are exam style and textbook exercises are several different questions with problem solving in most cases.

Each video shows examples and questions

All different ratio topics...

Ratio: simplifying Video 269 Practice Questions Textbook Exercise

Ratio: express as fractions or % Video 269a Practice Questions Textbook Exercise

Ratio: sharing the total Video 270 Practice Questions Textbook Exercise

Ratio: given one value Video 271 Practice Questions Textbook Exercise

Ratio: given two ratios Video 271a Textbook Exercise

Ratio: difference between Video 271b Textbook Exercise

Ratio: expressing as 1:n Video 271c Textbook Exercise

Ratio: equations/ratios Video 271d

Ratio: solving problems 1 Video 271e Textbook Exercise

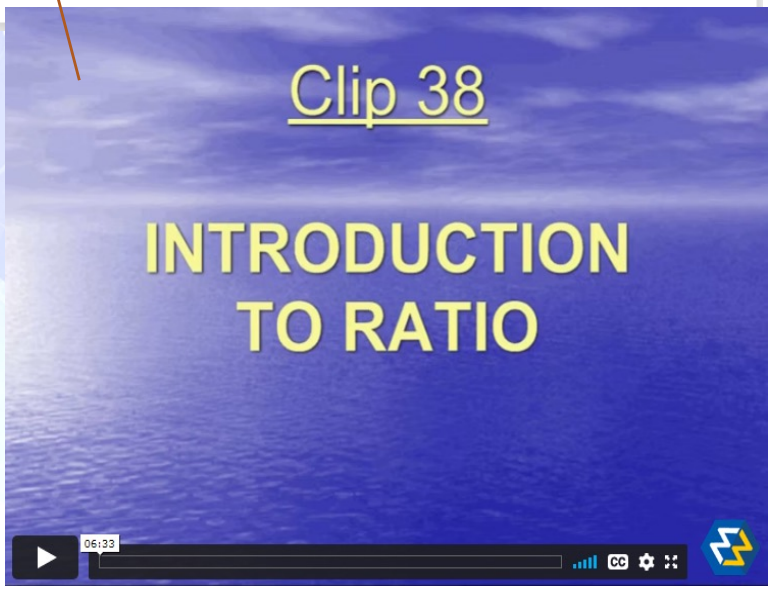
Ratio Revision...

mathswatch : Ratio search...

Find a Clip

Qualification	GCSE
Tier	Foundation
Grade	All
Topic	All
ch	ratio

Video for each



Choose Clip (11)

11 different clips match.

Clip	Title
21	Inverse Operations
38	Introduction to Ratio
39	Using Ratio for Recipe Questions
58	Listing Outcomes
69	Listing Strategies
75	BODMAS/BIDMAS
106	Sharing using Ratio
107	Ratios, Fractions and Graphs
165a	Ratio Questions - Standard Questions

Standard Questions « 1 2 3 4 5 » Harder Questions

Question Progress

Interactive questions to try

a) Write the ratio

24 : 18

in its simplest form.

b) 150 people attend a play.
45 of them are male.

Write the ratio male : female in its simplest form.

Revision guides and workbooks…

Revision Guide

Ratio 2

Ratio is used in lots of problem-solving questions. You need to be able to answer ratio questions like the ones on this page **without using a calculator**. Remember that you won't have one for Paper 1.

Golden rule

You can answer lots of ratio questions by working out what **one part** of the ratio represents.

Worked example

Target grade 3

Alexis, Nisha and Paul share a flat. One month their phone bill is £120.
They decide to split the bill in the ratio 3 : 5 : 2
How much does each person pay? **(3 marks)**

3 + 5 + 2 = 10
120 ÷ 10 = 12
3 × 12 = 36. Alexis pays £36.
5 × 12 = 60. Nisha pays £60.
2 × 12 = 24. Paul pays £24.

To divide a quantity in a given ratio:
1. Work out the total number of parts in the ratio.
2. Divide the quantity by this total.
3. Multiply your answer by each part of the ratio.

The order the people are written in is the same as the order of the numbers in the ratio. Alexis is first in the list, so 3 parts of the ratio represent the amount she pays.

Check it!
£36 + £60 + £24 = £120 ✓

Worked example

Target grade 4

Jamie and Chaaya took part in a sponsored swim to raise money for charity.
The ratio of Jamie's total to Chaaya's total is 5 : 7
Chaaya raised £12 more than Jamie.
How much money did they raise in total? **(3 marks)**

7 − 5 = 2
2 parts = £12 so 1 part = £6
Jamie = £30
Chaaya = £42
Total = £30 + £42 = £72

Problem solved! Start by working out what one part of the ratio represents.
Chaaya raised £12 more than Jamie so **two parts** of the ratio represent £12. Therefore, **one part** of the ratio represents £6.
So Jamie raised 5 × £6 = £30
Chaaya raised 7 × £6 = £42

Check it!

30 : 42 (÷6) → 5 : 7

£42 − £30 = £12 ✓

Now try this

Target grade 4

1 Ruth, Sue and Tess share £400 between them.
Ruth receives £80 more than Sue.
The ratio of Ruth's share to Sue's share is 9 : 5
Work out how much Tess receives. **(3 marks)**

2 Terri mixed 300 g of rice with 240 g of fish.
She added some onion to the mixture.
The ratio of the weight of fish to the weight of onion was 3 : 2
Work out the ratio of the weight of rice to the weight of onion. **(3 marks)**

Worked solution video

Ratio 2

Target grade 3 — Guided

6 Solder is made from lead and tin. The ratio of the mass of lead to the mass of tin is 2 : 3

(a) Kyle made 70 g of solder. Work out the mass of the lead used.

Total parts = ... + ... = ...

1 part = 70 ÷ ..... = ... g

2 parts = 2 × ..... = ... g **(2 marks)**

(b) He then uses 16 g of lead to make some more solder.
Work out the mass of solder he made.

..... g **(2 marks)**

Target grade 4 — Guided

7 Gabby and Harry shared some money based on their ages. The ratio of Gabby's age to Harry's age is 3 : 8. Harry received £2000 more than Gabby.
How much money did they share?

Problem solved! Harry received £2000 more than Gabby and 8 − 3 = 5 so five parts of the ratio represent £2000.

8 − 3 = 5 parts

5 parts = £2000

1 part = £2000 ÷ 5 = ...

11 parts = 11 × ..... = ...

In total they shared £..... **(3 marks)**

Target grade 4

8 Asha uses an old recipe to make some cakes.
The ratio of the weights of flour, margarine and sugar needed for the recipe is 5 : 4 : 3
Asha has the following amounts of each ingredient.

1825 g of flour
700 g of margarine
250 g of sugar

Each cake needs 48 g of the combined ingredients. Show that the maximum number of cakes she can make is 20.

(3 marks)

Revision Workbook

Revision cards…

- Remember that **DOING** maths is better than **READING** maths.

- Encourage your child to actually sit and answer questions and **check** them.

- Make some **revision cards**, with a skill/formula on one side, and an example question on the other.

- Tick off once a skill is mastered and know what isn’t yet fully understood!

Writing & simplifying ratio

- Always label which parts represent what. The order they are mentioned in the question is the order they are in.

eg1 Luke & Jordan share pizza in the ratio 2 : 3. What fraction did Jordan eat?

eg2 $\frac{5}{8}$ of children are girls. Write the ratio of boys to girls

- When simplifying check units are the same. Simplified ratios shouldn't have decimals in.

eg3 Simplify 40cm : 2m eg4 Simplify £1·40 : £3

- 1 : n means make the first part 1, n : 1 means make the second part 1.

eg5 Write 5 : 4 in a) 1 : n form b) n : 1 form

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eg1 L J
2 : 3

$\frac{3}{5}$

eg2 Boys : Girls
$\frac{3}{8}$ $\frac{5}{8}$

so 3 : 5

eg3. 40cm : 2m
40 : 200
÷40 1 : 5

eg4. £1·40 : £3
140 : 300
÷10 14 : 30
÷2 7 : 15

eg5. a) 5 : 4
÷5 1 : 0·8 ÷5

b) 5 : 4
÷4 1·25 : 1 ÷4

Sharing in a ratio.

Think carefully about if you are sharing between all the parts, one section or a difference.

Boxes really help for this.

eg1 Share 450g in the ratio 4 : 5

eg2 Anne & Bill share money in the ratio 3 : 7. Bill gets £56, how much does Anne get?

eg3. In an office the ratio of males to females is 2 : 13. If there are 33 more females, How many males are there?

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eg1. 4 : 5

[50] [50] : [50] [50] [50]

[50] [50] [50] [50]

200g : 250g

450 ÷ 9 = 50

eg2. A : B

3 : 7

[8] [8] [8] : [8] [8] [8]

[8] [8] [8] [8]

Anne = £24

£56 ÷ 7 = £8

eg3. M : F

11 boxes extra

33 ÷ 11 = 3

[3] [3] : [3] [3] [3] [3] [3] [3] [3] [3]

[3] [3] [3] [3] [3]

males = 6

Combining ratios.

You can combine two ratios into one by finding a common multiple.

eg, In a house the ratio of dogs to fish is 1:10. The ratio of fish to cats is 6:1. What is the ratio of dogs to cats?

Map scales

Remember the map is the smaller part. Work out the conversion rates like an exchange rate.

1km = 1000m
1m = 100cm
1cm = 10mm

eg2 A map has a scale of 1:50000. What is the map distance if two towns are 32km in real life?

eg1 D : F F : C

1 : 10 6 : 1

×3 ×5

D F C

3 : 30 : 5 → D:C 3:5

×50000

Map real life

eg2 1 : 50 000

÷50000

32km ×1000

32 000 m ×100

3 200 000 cm

3,200,000 ÷ 50000

= 64cm

Revision sessions…

Wednesday after school, 3 – 3.45pm.
Starting after Christmas.

To summarise…

- **Mathswatch** – the videos are great for learning the skills and the interactive questions provide you with instant feedback.

- **Corbett Maths** – another way to watch videos and practice what you have learnt. All questions have answers attached.

- **Mathsgenie** – great for exam style questions. All exam questions have worked solutions.