

Supporting your child in Mathematics

Y10 2026

What is the difference between 40% of 50% of 60 and 50% of 60% of 70?

A 9

B 8

C 7

D 6

E 5



**Jesmond Park
Academy**

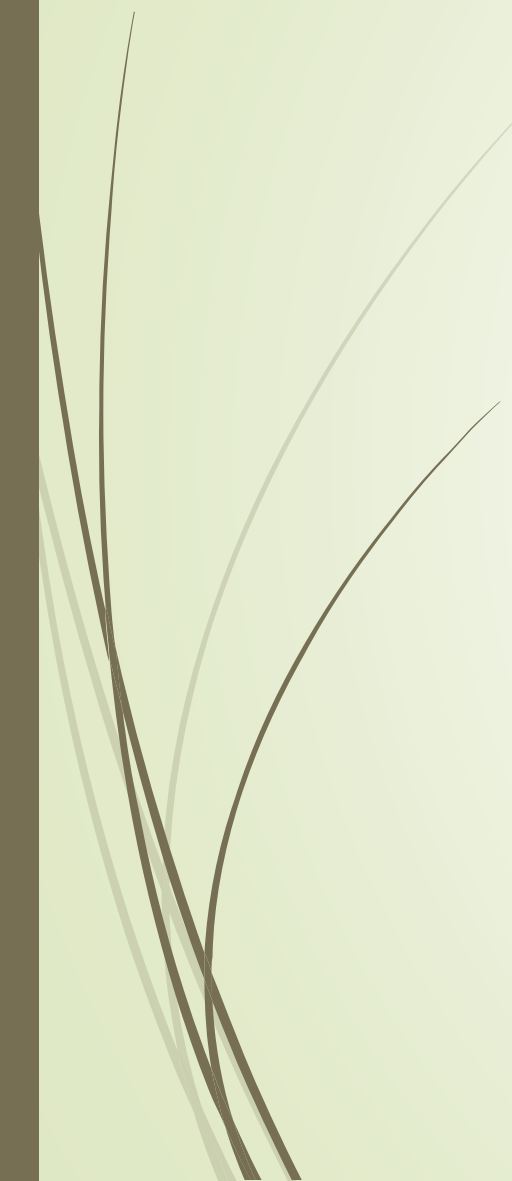


Mathematics in KS4

- About us and the curriculum at Key Stage 4
 - Higher/Foundation at GCSE
 - Assessments
 - Homework
 - Supporting at Home
 - Useful Resources
- 

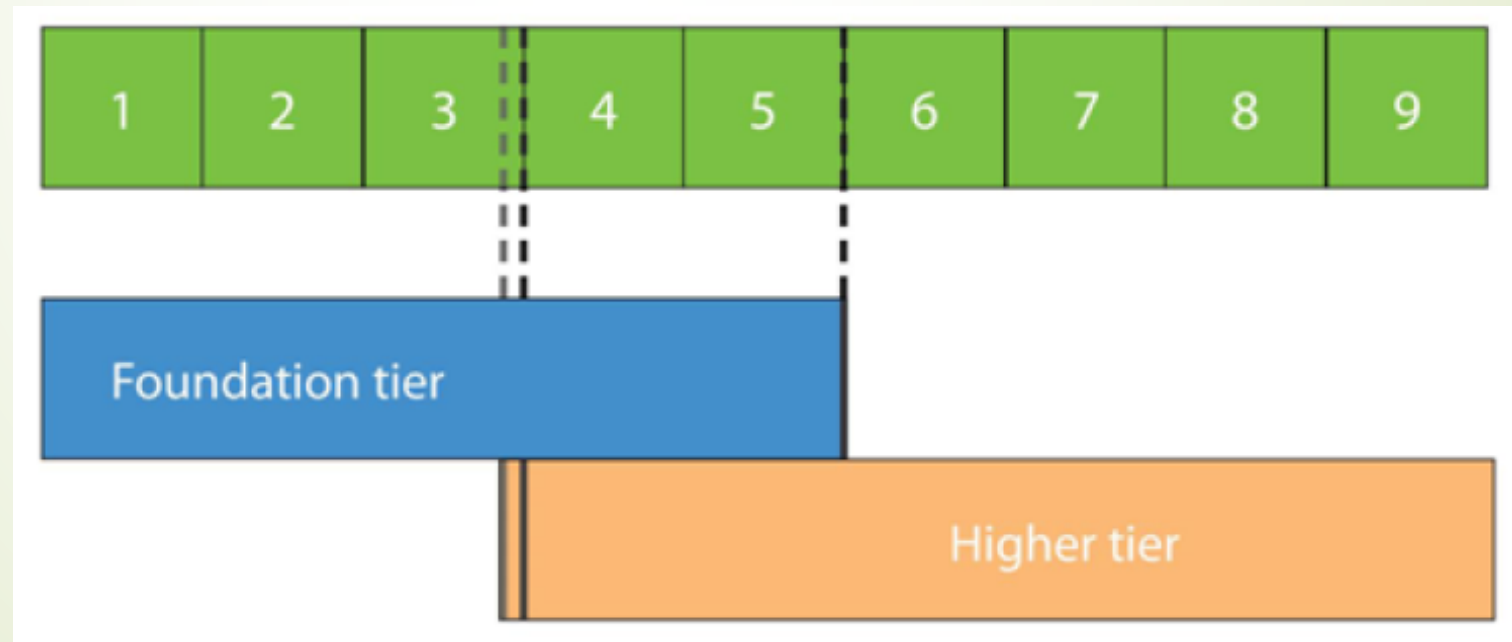


About us

- One the most successful maths departments in the North East.
 - 33% of pupils achieved a grade 7 or above in 2025/26
 - (national figure is ~22%)
 - 80% of pupils achieved a grade 4 or above in 2025/26
 - (national figure is ~72%)
 - 15 experienced maths specialist teachers
 - High retention of pupils going on to study A-level maths
- 

GCSE Tiers of Entry

- We aim to enter pupils for the tier of entry that gives them the best chance of their highest possible grade
- Entries are not made until after January Mocks in Year 11. Assessments are carried out in year 10 and Year 11 to ensure pupils are covering the most appropriate work to support their attainment in the final GCSE exams – set changes are made throughout to ensure the most appropriate support is available.



KS4 Curriculum Content (year 10 to year 11)

Theme	Stage 4	Stage 5	Stage 6	Stage 7
Rounding	Estimation	Error Bounds	Maximum and minimum calculations	
Negatives	Adding and subtracting with negative numbers	Inequalities	Graphical inequalities Z	Solve quadratic inequalities (set notation?)
Place value	Standard form	Multiplying and dividing with standard form	Standard form in context	
Multiples/factors/Primes	Product of Prime Factors	Simplifying, multiplying and dividing surds Z	Adding and subtracting surds	Rationalising
Indices	Laws of indices	Numerical Negative (and fractional higher) indices	Simplifying algebraic negative and fractional indices	
Multiplying	Multiplying Fractions	Multiplying and dividing with upper and lower bounds Z	multiplying and dividing more complex algebraic fractions Z	
Dividing	Reciprocals and dividing fractions	Multiplying and dividing algebraic fractions Z	Solving linear equations involving fractions	
Adding and Subtracting	Adding and subtracting with mixed numbers	Adding and subtracting with standard form	Adding and subtracting algebraic fractions Z	
Fractions	Fractions of amounts	Recurring decimals Z	Simplifying algebraic fractions with addition and subtraction	
Units	Area and volume conversions and scale factors	Compound Measures Z	Time graphs	Area under a curve
Simplifying	Combining single brackets	Simplifying algebraic fractions with single bracket factorisation Z	Simplifying algebraic fractions involving quadratics Z	Inverse and composite functions
Expanding	Expanding double brackets	Triple brackets Z	Algebraic proof (previously in stage 5) Z	Quadratic simultaneous equations
Solving Equations	Solving equations with unknowns on both sides	Solving simultaneous equations algebraically	Solving quadratics using the formula Z	Numerical methods
Factorising	Factorising single bracket with powers	Factorising and solve quadratics with $a=1$	Factorising and solving quadratics with $a>1$ Z	Completing the square
Substitution/Formulae	Writing expressions/formulae	Changing the subject of a formula	Changing the subject involving factorisation (this is on foundation too)	Equation of circles and tangents
Coordinates	Gradients and y intercepts	Drawing curved graphs	Trig graphs Z	Transforming graphs
Straight line graphs	Drawing from $y = mx + c$	Rearranging $y = mx + c$ and parallel (and perpendicular H) lines Z	Graphical simultaneous equations	Estimating gradients
Sequence	Geometric sequences	Fibonacci sequence and triangle numbers	Subscript notation for sequences Z	Graph sketching
nth term	nth term of a linear sequence	Generating quadratic sequences Z	Quadratic nth term (previously in stage 5) Z	
Ratio	1: n and unitary ratios	Direct proportion Z	Inverse proportion Z	
Dividing ratios	Recipes	Ratio more than problems	Combining ratios	harder ratio questions
Percentage change	Multipliers and % change	Reverse percentages and interest	Exponential graphs Z	
Perimeter	Pythagoras	Finding sides using trigonometry	Exact trig values	Cosine rule
Area	Area of a circle	Sectors Z	Answers in terms of pi	Sine rule for area
Vol and SA	Vol and surface area of prisms	Volume and surface area of cylinders	Volume and surface area of solids	
Angles	Angles in polygons	Finding angles using trigonometry Z	Circle theorems Z	More circle theorems
Construction	Bisectors	Loci Z	Bearings	
Transformations	Reflections	Rotation	Vector calculations	Vector geometry
Sim and congruent	Enlarging with fractional (and negative H) scale factors	Similar and congruent triangles Z	Geometric proof	Consecutive transformations
2D and 3D	Plans and elevations	3D Pythagoras Z	3D trigonometry (previously included in stage 5) Z	Sine rule
Probability	Sum to 1/mutually exclusive events	Relative frequency	Dependent events	
Probability diagrams	Venn diagrams	Tree diagrams	Conditional and given events Z	
Mean and mode	Mean missing values and combining	Mean and mode from a grouped frequency table	Comparing sets of data	
Median and range	Collecting data and sampling	Box plots and IQR (higher) Z	Cumulative frequency Z	
Charts	Scatter graphs	Times series (not included in scheme previously) Z	Histograms (previously in stage 5) Z	



Assessments and mocks – similar to Y9

- Assessments take two forms, formative and summative.
 - Formative assessments are used every two weeks throughout year 10 to assess how pupils are progressing through the curriculum
 - Formative assessments are ungraded and do not usually contain a 'mark', pupils are encouraged to reflect on their knowledge rather than attainment (using a feedback/review sheet).
 - Pupils are already used to this process from KS3 – ask them about their yellow sheet assessments
- 

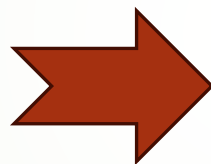
Back of the Homework Booklet


Jesmond Park Academy

Maths Department
Year 10 Stage 5 Booklet 1

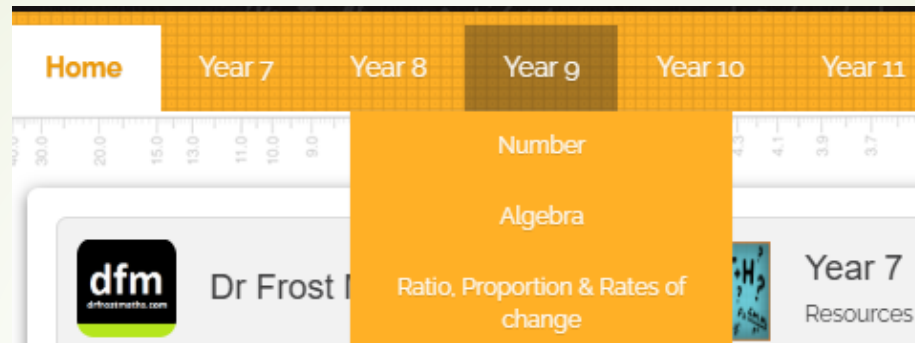
NAME: _____
MATHS TEACHER: _____
MATHS CLASS CODE: _____
FORM: _____



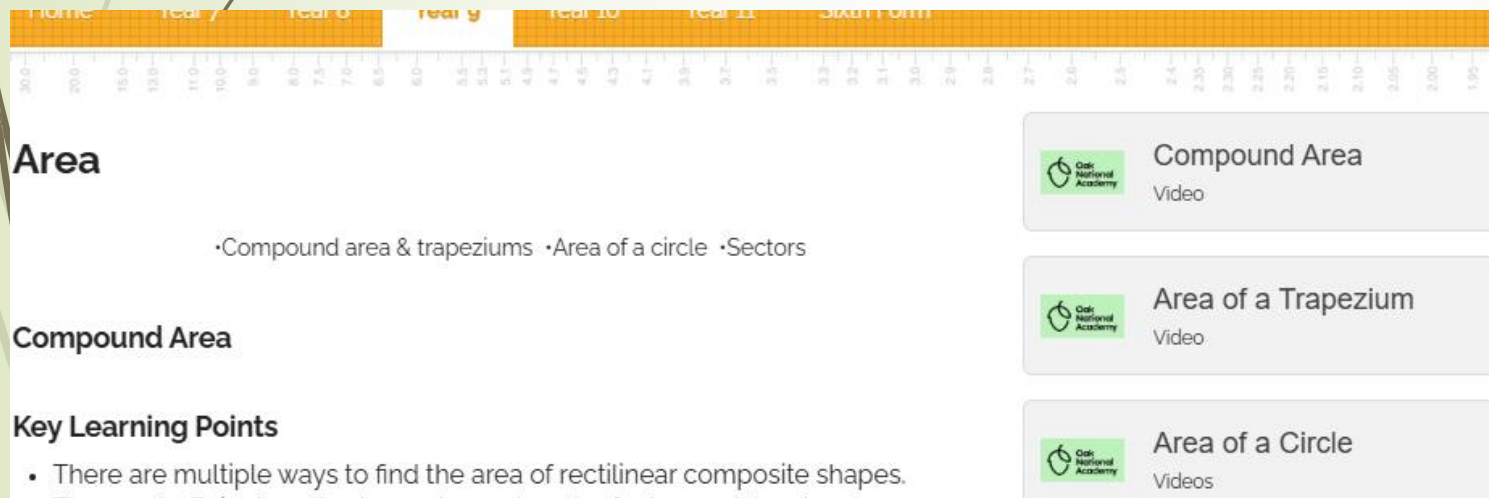


Date	Week	Topic
09/09/2024	1	Multiplying and dividing with standard form
16/09/2024	2	Fibonacci sequence and triangle numbers
23/09/2024	3	Sectors
30/09/2024	4	Mean and mode from a grouped frequency table
07/10/2024	5	Simplifying, multiplying and dividing surds
14/10/2024	6	Finding sides using trigonometry
21/10/2024	7	Inequalities
04/11/2024	8	Changing the subject of a formula
11/11/2024	9	Box plots and IQR
18/11/2024	10	Numerical Negative and fractional indices
25/11/2024	11	Finding angles using trigonometry
02/12/2024	12	Factorising and solve quadratics with a=1
09/12/2024	13	Times series
16/12/2024	14	Rotation
06/01/2025	15	Adding and subtracting with standard form
13/01/2025	16	3D Pythagoras
20/01/2025	17	Simplifying algebraic fractions with single bracket factorisation
27/01/2025	18	Error Bounds
03/02/2025	19	Solving simultaneous equations algebraically
10/02/2025	20	Multiplying and dividing with upper and lower bounds
17/02/2025	21	Direct proportion
03/03/2025	22	Relative frequency
10/03/2025	23	Multiplying and dividing algebraic fractions
17/03/2025	24	Generating quadratic sequences
24/03/2025	25	Compound Measures
31/03/2025	26	Loci
07/04/2025	27	Recurring decimals
28/04/2025	28	Similar and congruent triangles
05/05/2025	29	Triple brackets
12/05/2025	30	Volume and surface area of cylinders
19/05/2025	31	Drawing curved graphs
02/06/2025	32	Ratio more than problems
09/06/2025	33	Rearranging $y = mx + c$ and parallel and perpendicular lines
16/06/2025	34	Mock exams
23/06/2025	35	Mock exams
30/06/2025	36	Tree diagrams
07/07/2025	37	Reverse percentages and interest

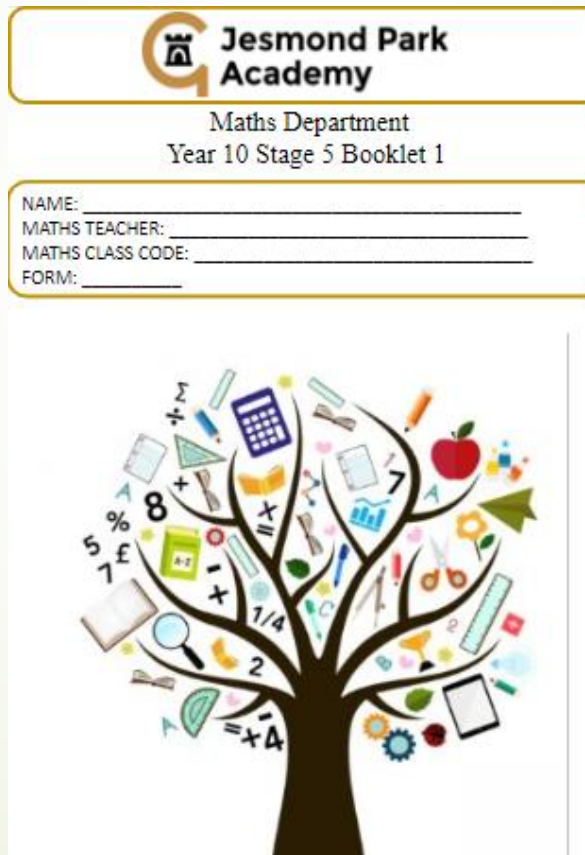
VLE – links to full lessons from Oak Academy



Our VLE now contains links to complete lessons, taught by qualified maths teachers



- 
- All
■ The



Homework – At Year 10

- Questions to prompt recall of earlier skills – repeated topics on a 2-week cycle



**Jesmond Park
Academy**

Maths Department
Year 10 Stage 5 Booklet 1

NAME: _____
MATHS TEACHER: _____
MATHS CLASS CODE: _____
FORM: _____

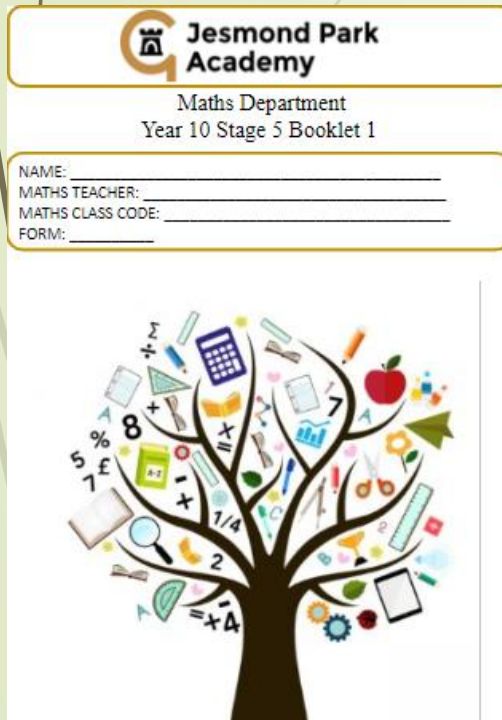


Skills revision

- 1 Estimate $\frac{333 \times 246}{140}$
- 2 Shape A is enlarged by a scale factor of 5 to produce shape B. Area of A = 3 cm^2 . What is the area of shape B?
- 3 Find the n th term of 6, 9, 12, 15,
- 4 Express 50 : 40 in the form $n : 1$
- 5 A price increases from £1340 to £1668.50. Calculate the percentage change

Homework – At Year 10

- Questions relating to the previous week's maths, and key knowledge for an upcoming topic



Last week's work.
Calculate the following giving your answer in standard form:
a) $3.7 \times 10^5 \times 5 \times 10^6$
b) $(2 \times 10^{10}) \div (5 \times 10^{-2})$
c) $3 \times 10^6 \times 2.1 \times 10^{-8} \times 5 \times 10^{12}$

Work for three weeks' time.
a) Work out the prime factor decomposition of 32
b) Use part a to work out the HCF and LCM of 6 and 32

Homework – At Year 10

- Questions to promote problem solving skills (and resilience!)
- Class teachers set homework each week from the booklet – reminder set on Frog



**Jesmond Park
Academy**

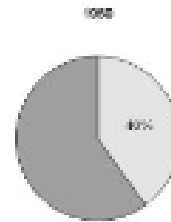
Maths Department
Year 10 Stage 5 Booklet 1

NAME: _____
MATHS TEACHER: _____
MATHS CLASS CODE: _____
FORM: _____

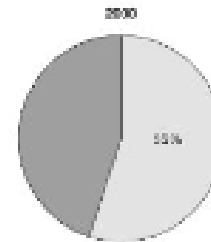


Problem Solving

Look at the pie charts showing information about the world population
in the years 1990 and 2000.



World population 4000 million



World population 6000 million

Key:
People living in towns and cities
People living elsewhere

In the year 2000, more people lived in towns and cities than in 1990.

How many more?

This week I have revised

Support at home

- Make homework as purposeful as possible

The screenshot shows a Google search interface. The top search bar contains the text "gcse rationalising the denominator". Below it, the search results for "gcse rules of indices" are displayed. The first result is from BBC, titled "Rationalising the denominator". The second result is from MME Revise, titled "Indices Rules Worksheets | Questions and Revision". The third result is from YouTube, titled "Laws of Indices - Part 1 (Higher & Foundation) | GCSE Maths Tutor".

Google
gcse rationalising the denominator

All Videos Images News Books Maps Web More

Memory usage: 159 MB

Worksheets Calculator Examples Pdf Questions

BBC
https://www.bbc.com/news/education-12345678

Rationalising the denominator

If the denominator is a square root, then you can rationalise it by multiplying the numerator and denominator by the same square root.

MME Revise
https://mmerevise.co.uk › GCSE Maths Revision

Indices Rules Worksheets | Questions and Revision

Rules of Indices worksheets, questions and revision for GCSE Maths. All the revision in one place.

YouTube · The GCSE Maths Tutor
186.3K+ views · 4 years ago

Laws of Indices - Part 1 (Higher & Foundation) | GCSE Maths Tutor

GCSE MATHS TUTOR
A video revising the techniques and strategies surrounding indices (Part 1) This video is part of the Number module in

The image shows handwritten notes on indices rules. The title is "What I have revised this week-". Below the title, there are several rules and examples written in blue and red ink. The rules include: $y^a \times y^b = y^{a+b}$, $w^3 \times w^5 = w^8$, $y^a \div y^b = y^{a-b}$, $w^8 \div w^2 = w^6$, $a^{-2} \times a^5 = a^3$, $a^4 \div a^6 = a^{-2}$, $y^2 \times y^3 = y^5$, $y \times y \times y \times y \times y = y^5$, $\frac{y^5}{y^3} = y^2$, $\frac{y \times y \times y \times y \times y}{y \times y \times y} = y^2$, $\frac{24w^6}{2w^4} = 12w^2$, $(y^a)^b = y^{ab}$, $(y^4)^5 = y^{20}$, and $(y^3)^2 = y^6$.

What I have revised this week-

Indices 17

$y^a \times y^b = y^{a+b}$ $w^3 \times w^5 = w^8$ $y^a \div y^b = y^{a-b}$ $w^8 \div w^2 = w^6$

$a^{-2} \times a^5 = a^3$ $a^4 \div a^6 = a^{-2}$

$y^2 \times y^3 = y^5$ $y \times y \times y \times y \times y = y^5$ $\frac{y^5}{y^3} = y^2$ $\frac{y \times y \times y \times y \times y}{y \times y \times y} = y^2$ $\frac{24w^6}{2w^4} = 12w^2$

$(y^a)^b = y^{ab}$ $(y^4)^5 = y^{20}$ $(y^3)^2 = y^6$

Useful resources – list on next page (this will be sent out)

- To support your child at home we encourage the use of Corbett Maths, Maths Genie and GCSE Bitesize
- Free websites with video guides and practice worksheets

Corbettmaths – Videos, worksheets, 5-a-day and much more

<https://corbettmaths.com> ▼

Welcome to **Corbettmaths**! Home to 1000's of maths resources: Videos, Worksheets, Revision Cards and much more.

Videos and Worksheets

Worksheet Answers - Primary -
Names of 2D Shapes Video - ...

Practice Papers

The Corbettmaths Practice Papers



Corbettmaths

Welcome Videos and Worksheets Primary 5-a-day ▼ More ▼ Revision Cards

Welcome

5-a-day

Videos

Worksheets

Practice Papers

Useful resources

- A calculator! (Casio FX-83, FX-85, FX-991)
- Calculator familiarity is key at GCSE

results

Check each product page for other buying options.

Sponsored

OSALO
Scientific Calculator 417 Function 2 Line 10+2 Digits Written Display Solar and Battery Calculators for Students Secondary School College Black (OS 991ES Plus 2nd Edition)
★★★★☆ (933)
1K+ bought in past month
£22.99
Add to basket

Eagle
Scientific Calculator with Sliding Cover
★★★★☆
£8.99 Was: £9.49
Save 5% with
FREE delivery on eligible order to
Or fastest delivery

Sponsored
Casio Scientific Calculator 417 Function 2 Line 10+2 Digits Written Display Solar and Battery - Ideal for Secondary School Students
★★★★☆
£19.99
Save 20% with voucher
FREE delivery Sat, 28 Sept on your first eligible order to UK or Ireland

amazon.co.uk Delivering to Newcastle... NE98 Update location

All casio calculator

All Best Sellers New Releases Today's Deals Prime Prime Video Music Books Home & Garden Gift Cards & Top Up Elec

Amazon.co.uk Today's Deals Resale Outlet Subscribe & Save Vouchers Amazon Prime Prime Video Prime Student Mobile Apps Amazon I

16 of 189 results for "casio calculator"

fx-83GTCW+ Scientific Calculator
4.8 ★★★★★ (136)
20K+ bought in past month
£14.82 RRP: £16.99
FREE delivery Tue 29 Sept
Only 9 left in stock.
Add to basket
More buying choices
£14.46 (11 new offers)
+2

Casio
fx-85GTCW+ Scientific Calculator
4.7 ★★★★★ (4.7K)
10K+ bought in past month
£15.95
FREE delivery Tue 29 Sept

Only get "991" if likely to do A-level:

Sponsored

Casio
fx-991CW+ Scientific Calculator
4.6 ★★★★★ (94)
8K+ bought in past month
£29.00 RRP: £35.99
FREE delivery 5 - 13 Oct on your order to UK or Ireland

Useful resources – list on next page (this will be sent out)

- To support your child at home we encourage the use of Corbett Maths, Maths Genie and GCSE Bitesize
- Free websites with video guides and practice worksheets

Corbettmaths – Videos, worksheets, 5-a-day and much more

<https://corbettmaths.com> ▼

Welcome to **Corbettmaths**! Home to 1000's of maths resources: Videos, Worksheets, Revision Cards and much more.

Videos and Worksheets

Worksheet Answers - Primary -
Names of 2D Shapes Video - ...

Practice Papers

The Corbettmaths Practice Papers



Corbettmaths

Welcome Videos and Worksheets Primary 5-a-day ▼ More ▼ Revision Cards

Welcome

5-a-day

Videos

Worksheets

Practice Papers



Useful Maths Revision Websites

<https://www.drfrust.org/revision/papers>

*register for a free account to record progress

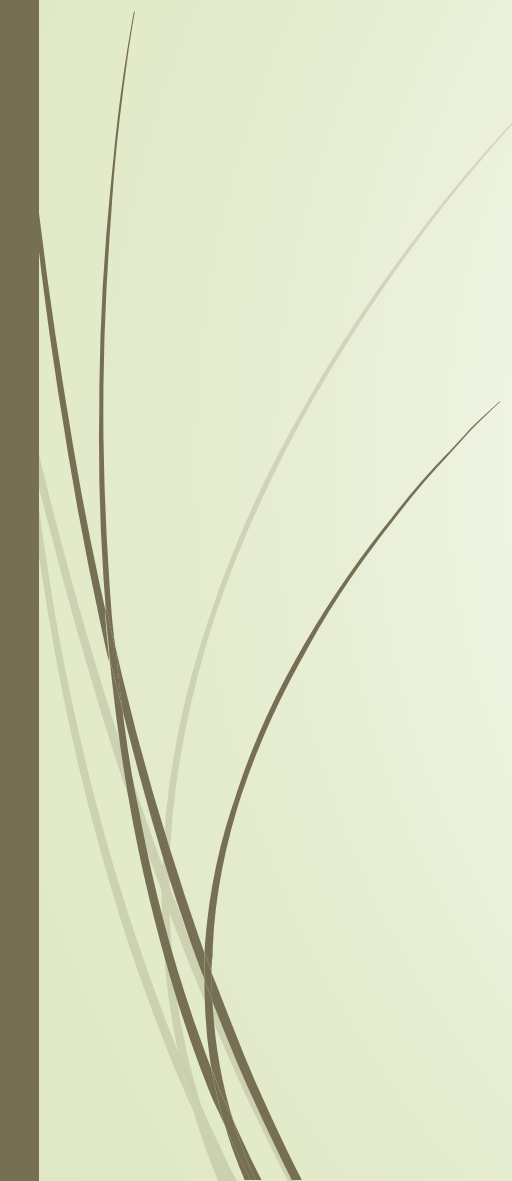
www.onmaths.com/our-top-top-topics

www.1stclassmaths.com

www.mathslinks.co.uk/gcse-questions-by-topic

www.gcsemathsquestions.co.uk

www.mathsgenie.co.uk





**“The only way to learn mathematics is
to do mathematics.”**

Paul R. Halmos



Thank you

What is the difference between 40% of 50% of 60 and 50% of 60% of 70?

A 9

B 8

C 7

D 6

E 5

40% of 50% of 60 equals 40% of 30 = 12. Also, 50% of 60% of 70 is 50% of 42 = 21.
So the required difference is $21 - 12 = 9$.