

Supporting your child in Mathematics

What is the value of $\frac{4444 + 5555}{1111 + 2222}$?

A 3

B 6.5

C 33

D 333

E 3333



**Jesmond Park
Academy**



Mathematics in KS3

- About the curriculum
- Homework, the VLE and Support at Home
- Assessments
- Calculators

Slides will be sent out to parents and carers in case you miss any part of the presentation



About the curriculum

- All of our lessons have the same underpinning principles
 - building on previous learning
 - securing knowledge
 - gaining fluency
 - promoting reasoning
 - developing problem solving skills

KS3 Curriculum Content (year 8 and year 9)

Emerging → ... → Excelling

Theme	Stage 2	Stage 3	Stage 4	Stage 5
Rounding	Rounding decimals	Rounding with significant figures	Estimation	Error Bounds
Negatives	Counting with negatives	Multiplying and dividing with negatives	Adding and subtracting with negative numbers	Inequalities
Place value	Multiplying and Dividing with powers of 10	Equivalent calculations	Standard form	Multiplying and dividing with standard form
Multiples/factors/Primes	Factors and primes	LCM/HCF	Product of Prime Factors	Simplifying, multiplying and dividing surds Z
Indices	Roots and BIDMAS	Calculating Powers greater than 3 and BIDMAS	Laws of indices	Numerical Negative (and fractional higher) indices
Multiplying	Multiplying Integers	Multiplying decimals	Multiplying Fractions	Multiplying and dividing with upper and lower bounds Z
Dividing	Dividing Integers	Dividing decimals	Reciprocals and dividing fractions	Multiplying and dividing algebraic fractions Z
Adding and Subtracting	Adding and subtracting decimals	Adding and subtracting fractions	Adding and subtracting with mixed numbers	Adding and subtracting with standard form
Fractions	Simplifying and equivalent fractions	Fractions, decimals, and percentages	Fractions of amounts	Recurring decimals Z
Units	Time	Metric Units	Area and volume conversions and scale factors	Compound Measures Z
Simplifying	Collecting one variable terms ($m + m + 2m =$)	Collecting like terms	Combining single brackets	Simplifying algebraic fractions with single bracket factorisation Z
Expanding	Multiplying terms with power > 1	Expanding single brackets	Expanding double brackets	Triple brackets Z
Solving Equations	One step equations	Solving multi step equations	Solving equations with unknowns on both sides	Solving simultaneous equations algebraically
Factorising	Dividing algebraic terms	Factorising into single brackets with no powers	Factorising single bracket with powers	Factorising and solve quadratics with $a=1$
Substitution/Formulae	Function machines	Substitution and formulae	Writing expressions/formulae	Changing the subject of a formula
Coordinates	Coordinates in all four quadrants	Completing coordinate tables	Gradients and y intercepts	Drawing curved graphs
Straight line graphs	$x = a$ and $y = b$ graphs	Draw straight line graphs from coordinate tables	Drawing from $y = mx + c$	Rearranging $y = mx + c$ and parallel (and perpendicular H) lines Z
Sequence	Finding missing numbers in sequences	Arithmetic sequences	Geometric sequences	Fibonacci sequence and triangle numbers
nth term	Generating a sequence from a rule	Generating a sequence from the nth term - linear and non linear	nth term of a linear sequence	Generating quadratic sequences Z
Ratio	Simplifying ratios	Writing ratios as fractions	1: n and unitary ratios	Direct proportion Z
Dividing ratios	Distributing according to a given ratio	Sharing into a ratio	Recipes	Ratio more than problems
Percentage change	Calculating 10%, 20%, etc	Percentage increase and decrease	Multipliers and % change	Reverse percentages and interest
Perimeter	Perimeter of 2D shapes	Circumference	Pythagoras	Finding sides using trigonometry
Area	Area of Rectangles, triangles, parallelograms	Compound area and trapeziums	Area of a circle	Sectors Z
Vol and SA	Volume of cubes and cuboids	Surface area - cubes and cuboids	Vol and surface area of prisms	Volume and surface area of cylinders
Angles	Angles in triangles and quadrilaterals	Angles in parallel lines	Angles in polygons	Finding angles using trigonometry Z
Construction	Constructing triangles	Scale drawings	Bisectors	Loci Z
Transformations	Rotational symmetry	Translations	Reflections	Rotation
Sim and congruent	Enlargements no centre	Enlarging from a centre	Enlarging with fractional (and negative H) scale fac	Similar and congruent triangles Z
2D and 3D	Properties of triangles and quadrilaterals	Recognising 3D/nets, Vertices, properties	Plans and elevations	3D Pythagoras Z
Probability	Probability scale numerical	Probability of an event	Sum to 1/mutually exclusive events	Relative frequency
Probability diagrams	Two way tables	Sample space diagrams	Venn diagrams	Tree diagrams
Mean and mode	Mean and mode from list	Mean and mode from frequency table	Mean missing values and combining	Mean and mode from a grouped frequency table
Median and range	Median and range from list	Median from a frequency table	Collecting data and sampling	Box plots and IQR (higher) Z
Charts	Composite, bar charts	Pie charts	Scatter graphs	Times series (not included in scheme previously) Z

Homework

- All pupils have a homework booklet that supports their progression through our curriculum
- They should have maths homework every week

 **Jesmond Park Academy**

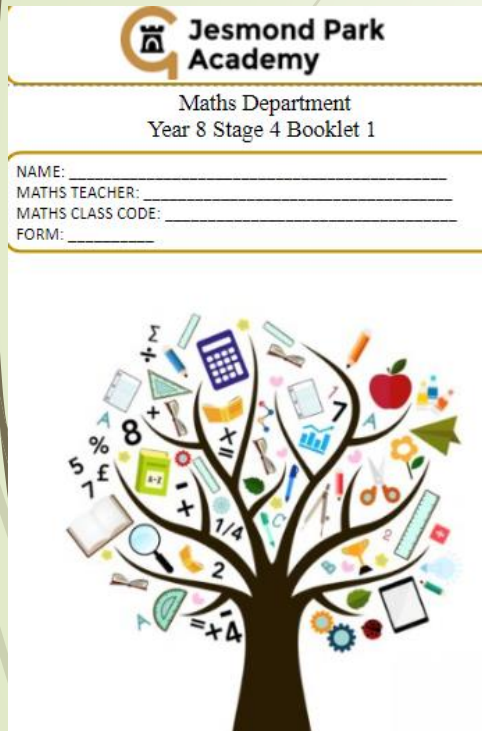
Maths Department
Year 8 Stage 4 Booklet 1

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



Homework

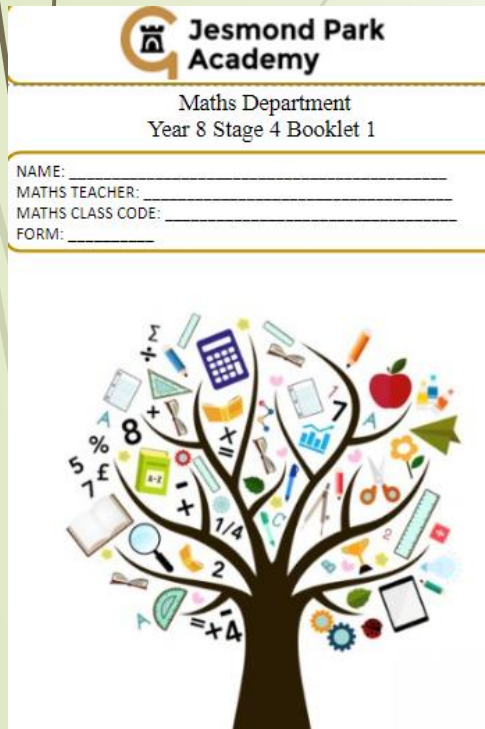
- Mixed questions based on their current level (called “Skills Revision”)
- Follow a 2-week repetition cycle – pupils and teachers use this to find gaps in knowledge



Skills revision	
1	Work out 7×-1
2	Work out $\frac{5}{7} + \frac{2}{3}$
3	What is the highest common factor of 27 and 18?
4	$y = 11x + 1$ Find the value of y when $x = 11$
5	Calculate the mean (to 1dp):
Score	Frequency

Homework

- All pupils have a homework booklet that supports their progression through our curriculum
- Questions relating to the previous week's work,
- Questions to prompt recall of earlier skills



Last week's work.

Describe the rule for each sequence below and find the next three terms

5, 10, 20, 40, ...

64, 32, 16, 8, ...

1, 3, 9, 27, ...

Work for three weeks' time.

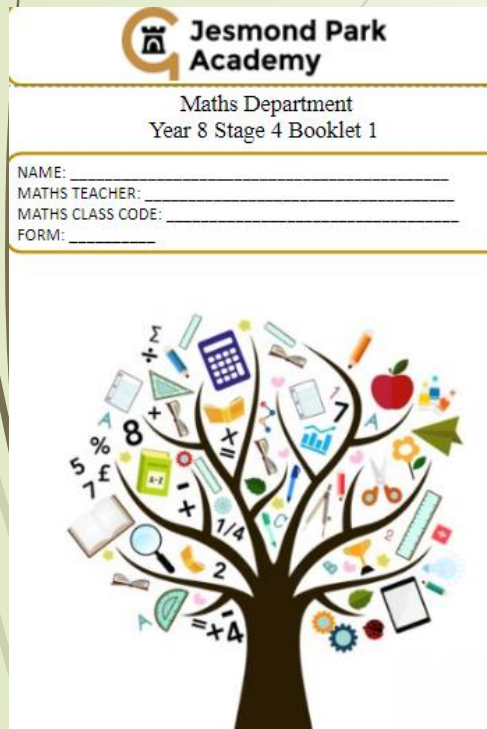
The table shows information about the number of points scored in a game.

Points	Frequency
0	9
1	11
2	18
3	7
4	4
5	1

- Find the mode
- Find the mean

Homework

- Questions to promote problem solving skills and resilience



Problem Solving

The pie chart shows how pupils in class 8A travelled to school one morning.



6 pupils in class 8A walked to school.

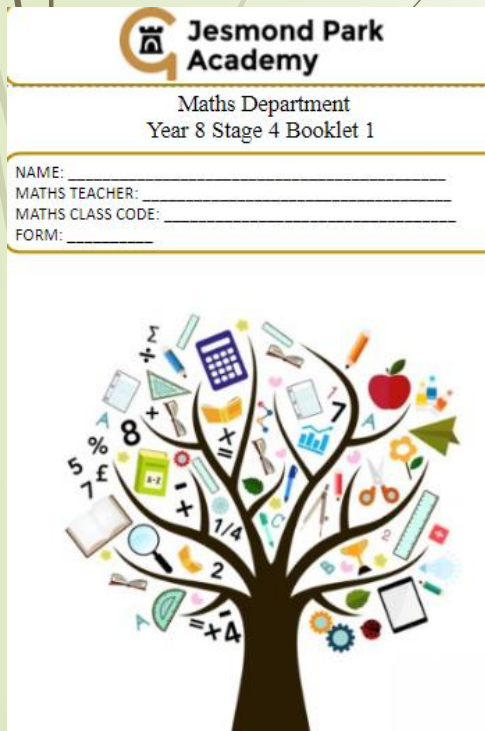
Work out how many pupils in class 8A travelled by bus

Homework

- Pupils are encouraged to use this section of the booklet to work on a “gap” in knowledge that they’re aware of

This week I have revised

Assuming you know the 1, 2, 5, and 10 ten times tables, there are only(!) 21 multiplication facts you need to master...



1	2	3	4	5
$1 \times 1 = 1$	$2 \times 2 = 4$	$3 \times 3 = 9$	$4 \times 4 = 16$	$5 \times 5 = 25$
$1 \times 2 = 2$	$2 \times 3 = 6$	$3 \times 4 = 12$	$4 \times 5 = 20$	$5 \times 6 = 30$
$1 \times 3 = 3$	$2 \times 4 = 8$	$3 \times 5 = 15$	$4 \times 6 = 24$	$5 \times 7 = 35$
$1 \times 4 = 4$	$2 \times 5 = 10$	$3 \times 6 = 18$	$4 \times 7 = 28$	$5 \times 8 = 40$
$1 \times 5 = 5$	$2 \times 6 = 12$	$3 \times 7 = 21$	$4 \times 8 = 32$	$5 \times 9 = 45$
$1 \times 6 = 6$	$2 \times 7 = 14$	$3 \times 8 = 24$	$4 \times 9 = 36$	
$1 \times 7 = 7$	$2 \times 8 = 16$	$3 \times 9 = 27$		
$1 \times 8 = 8$	$2 \times 9 = 18$			
$1 \times 9 = 9$				

6	7	8	9
$6 \times 6 = 36$	$7 \times 7 = 49$	$8 \times 8 = 64$	$9 \times 9 = 81$
$6 \times 7 = 42$	$7 \times 8 = 56$	$8 \times 9 = 72$	
$6 \times 8 = 48$	$7 \times 9 = 63$		
$6 \times 9 = 54$			

Support at home

Google  year 8 maths mean    

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Example Calculator Formula Gcse Median mode

The mean is the total of the numbers divided by how many numbers there are. To find the mean, **add all the numbers together then divide by the number of numbers.** $6 + 3 + 100 + 3 + 13125. 125 \div 5 = 25.$

 BBC
<https://www.bbc.co.uk/bitesize/articles>

BBC Bitesize - How to find the mean, median, mode and range

Google  year 9 mean frequency table   

 BBC
<https://www.bbc.co.uk/bitesize/articles>

Calculating the mean, mode and range from a frequency ...

How to find the mean from a frequency table · Set up a new column to multiply each category by its frequency. · Find the sum of the new column. This finds the ...

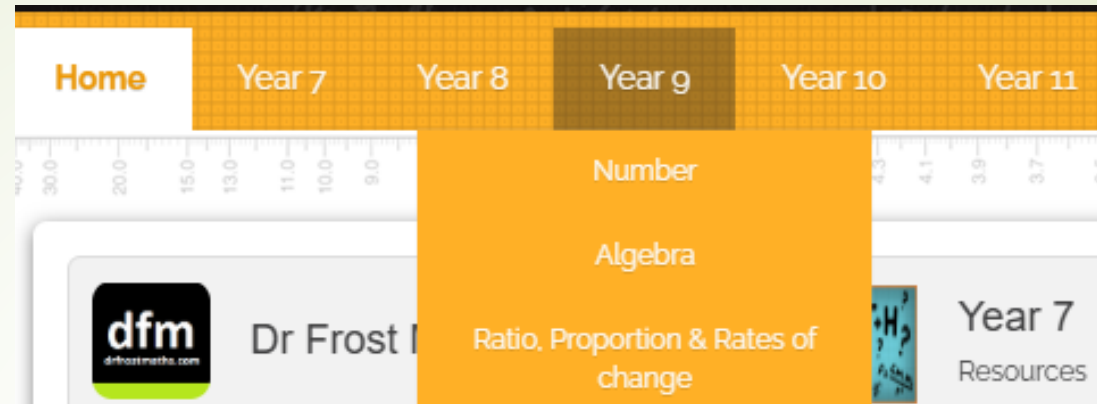
What I have revised this week-

Indices	17
$y^a \times y^b = y^{a+b}$ $w^3 \times w^5 = w^8$ $a^{-2} \times a^5 = a^3$ $y^a \div y^b = y^{a-b}$ $w^8 \div w^2 = w^6$ $a^4 \div a^6 = a^{-2}$ $y^5 \div y^3 = y^2$ $y \times y \times y \times y \times y = y^5$ $y^4 \times y^5 = y^9$ $(y^3)^2 = y^6$	$y^a \div y^b = y^{a-b}$ $w^8 \div w^2 = w^6$ $a^4 \div a^6 = a^{-2}$ $y^5 \div y^3 = y^2$ $y \times y \times y \times y \times y = y^5$ $y^4 \times y^5 = y^9$ $(y^3)^2 = y^6$

Back of the Homework Booklet

Date	Week	Topic
07/09/2026	1	Adding and subtracting fractions
14/09/2026	2	Arithmetic sequences
21/09/2026	3	Recognising 3D/nets, Vertices, properties
28/09/2026	4	Multiplying and dividing with negatives
05/10/2026	5	Collecting like terms
12/10/2026	6	Mean and mode from frequency table
19/10/2026	7	Equivalent calculations
02/11/2026	8	Substitution and formulae
09/11/2026	9	Circumference
16/11/2026	10	Multiplying decimals
23/11/2026	11	Pie charts
30/11/2026	12	Metric Units
07/12/2026	13	Completing coordinate tables
14/12/2026	14	Dividing decimals
04/01/2027	15	Draw straight line graphs from coordinate tables
11/01/2027	16	LCM/HCF
18/01/2027	17	Median from a frequency table
25/01/2027	18	Rounding with significant figures
01/02/2027	19	Assessment week 1
08/02/2027	20	Scale drawings
22/02/2027	21	Calculating Powers greater than 3 and BIDMAS
01/03/2027	22	Compound area and trapeziums

VLE



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

A screenshot of a lesson page titled 'Area' in the VLE. At the top, there is a navigation bar with tabs for 'Home', 'Year 7', 'Year 8', 'Year 9' (selected), 'Year 10', 'Year 11', and 'Sixth Form'. Below the navigation bar is a ruler graphic. The main content area is titled 'Area' and includes a list of topics: 'Compound area & trapeziums', 'Area of a circle', and 'Sectors'. Below this, there is a section titled 'Compound Area' and another titled 'Key Learning Points'. The 'Key Learning Points' section contains a bullet point: 'There are multiple ways to find the area of rectilinear composite shapes.' On the right side of the page, there is a sidebar with three video links, each with a logo for 'Oak National Academy': 'Compound Area Video', 'Area of a Trapezium Video', and 'Area of a Circle Videos'.

Useful resources

- 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

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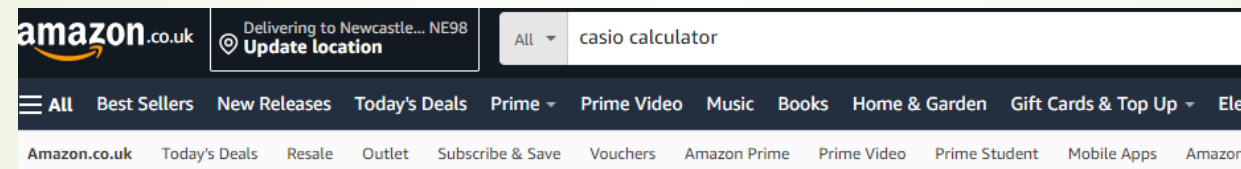


Assessments

- Assessments take two forms, formative and summative.
- Formative assessments are short tests used to guide pupil-learning and ensure progress at a good pace – pupils in KS3 follow a two-week assessment-feedback cycle
- 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).
- Summative assessments, sat three times during the year (Autumn, Spring and Summer), use a bespoke paper based on Age Related Expectations (Emerging -> Excelling)
- An overall Age Related Grade is used in Key Stage 3 to track progress through our curriculum.

Calculators

- A calculator! (Casio FX-83, FX-85, FX-991)
- Calculator familiarity is key at GCSE, and very helpful throughout year 8 and 9.



Results

Check each product page for other buying options.

16 of 189 results for "casio calculator"

Best Seller



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Casio

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★★★★☆ 1,887

20K+ bought in past month

£10⁹⁰ RRP: £18.49

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FREE Delivery on your first order shipped by Amazon

Thank you

What is the value of $\frac{4444 + 5555}{1111 + 2222}$?

A 3

B 6.5

C 33

D 333

E 3333

SOLUTION

A

$$\begin{aligned}\frac{4444 + 5555}{1111 + 2222} &= \frac{4 \times 1111 + 5 \times 1111}{1 \times 1111 + 2 \times 1111} \\ &= \frac{(4 + 5) \times 1111}{(1 + 2) \times 1111} \\ &= \frac{4 + 5}{1 + 2} \\ &= \frac{9}{3} \\ &= 3.\end{aligned}$$