



dfm

Information for Interested Schools/Institutions

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www.drfrostmaths.com

@DrFrostMaths

What is DrFrostMaths?

We are a charity offering a diverse set of teaching resources and tools including

1. downloadable teaching slides/worksheets and videos for KS3-5,
2. tools for building worksheets
3. a online platform for KS2-5 students to practise questions and teachers to set work.
4. the capacity for schools, publishers and trusts to design a curriculum.

The screenshot displays the DrFrostMaths website interface. At the top, there is a navigation bar with the 'dfm' logo, a search bar containing 'Search skills, resources.', and links for 'Donate', 'Courses', 'Resources', 'Practise', and 'Login'. Below the navigation bar is a large green banner with the text 'Empowering learners and teachers in mathematics.' in a handwritten font.

The main content area shows a math problem interface. On the left, a question asks to find the perimeter of a composite rectilinear shape with dimensions 18 cm, 3 cm, 12 cm, and 6 cm. Below the question is a text input field with '60' entered. On the right, a 'Correct' notification states 'The answer is Perimeter = 60 cm' and provides the calculation: $Perimeter = 12 + 6 + 9 + 12 + 3 + 18 = 60 \text{ cm}$. To the right of the notification is a grid with a hand-drawn diagram of the shape and handwritten calculations: $18 - 6 = 12$ and $12 - 3 = 9$.

On the right side of the interface, there is a section titled 'Supporting learners all the way.' with three bullet points: 1. Catering for learners of all ages with 1000 question generators, known as Key Skills, and 40000+ exam questions for broader practice. 2. Supported with full workings and worked-example videos. 3. Sequential and scaffolded learning via courses crafted in-house, by exam boards and by schools. Below this text are two buttons: 'Login' and 'Sign Up'.



Site Structure

Downloadable Resources

Downloadable slides + worksheets intended for classroom use.
+ Computer Science platform.

Courses

Utilities

DFM Whiteboard

Can connect with student whiteboards and ability to import exam questions to annotate over.

DFM Live!

Whole class interactive game played on mobile devices.

Build/Output worksheet

to Word, with markscheme.

Set to Students

as homework or 'assessment'. Or students can initiate practice themselves.

Questions

'Fixed Questions'

42,000 questions, incl Edexcel, AQA, OCR, SOA, Eduqas, UKMT. Broader topic structure but questions can have multiple topics assigned.



Longer topic-based videos.

Key Skills

Randomly generated questions intended for repetitive practice, more fine-grained in skills involved.



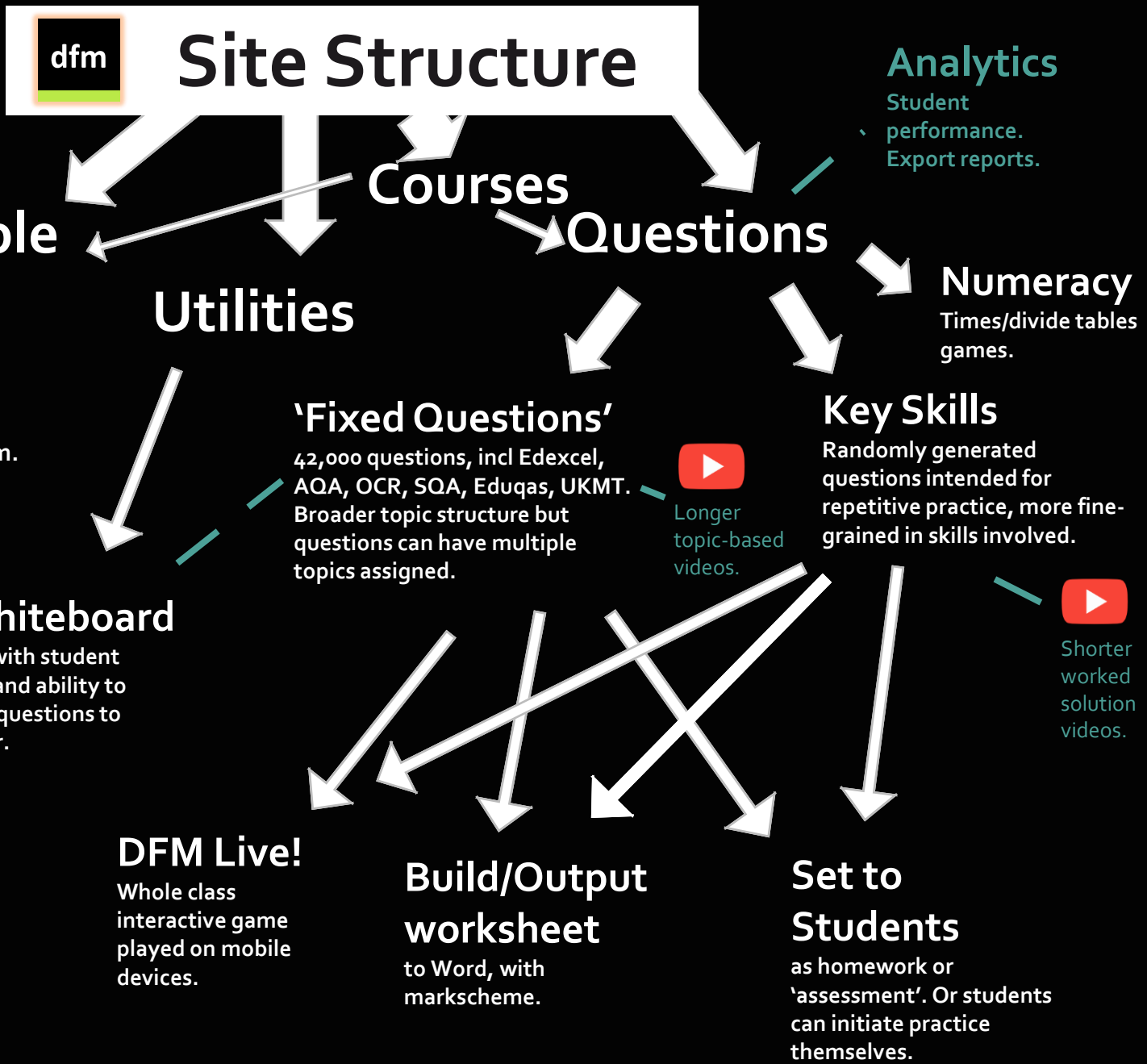
Shorter worked solution videos.

Analytics

Student performance.
Export reports.

Numeracy

Times/divide tables games.



dfm

Key Features

dfm



Calculator Permitted
Author: Edexcel
Difficulty: 1 2 3 4

Get Video Help on this Topic



Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8

Exit

[Edexcel Linked Pair June 2017 Methods 2H Q14]

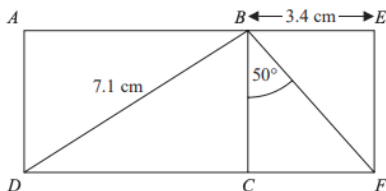


Diagram NOT accurately drawn

$ABCD$ and $BEFC$ are rectangles.
 $BD = 7.1$ cm
 $BE = 3.4$ cm
Angle $CBF = 50^\circ$

Work out the size of angle BDC .
Give your answer correct to one decimal place.

(5 marks)

Submit Answer

Skip for Now

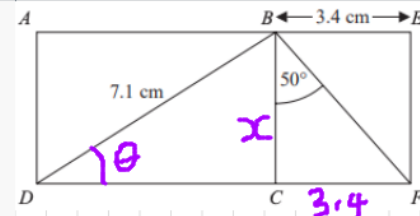


Diagram NOT accurately drawn

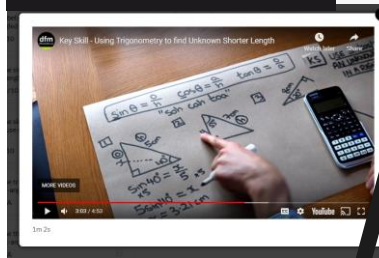
$$\tan 50 = \frac{3.4}{x}$$

$$x = \frac{3.4}{\tan 50} = 2.8529$$

$$\sin \theta = \frac{2.8529}{7.1}$$

$$\theta = \sin^{-1} \left(\frac{2.8529}{7.1} \right)$$

Help videos.



Teachers can also set work as a 'formal assessment', such that feedback is not given.

Mini-Whiteboard.

Teachers can require working be submitted.

You've gained a point for this key skill.

Get to 6 to complete this skill, or get to 10 to reach Master level.



▶ Example

The 'Key Skills' system randomly generates questions on fine-grained question types.



Q1

Q2

Q3

Q4

Q5

Q6

Q7

Q8

Q9

Q10

Exit

Informative dynamically generated feedback.

Work out

$$\frac{3}{8} + \frac{9}{16}$$

Give your answer in its simplest form.

You can optionally leave a comment for your teacher about this question/your answer. Press Alt+Equals to insert mathematical expressions.

Send

✓ Correct

The answer is $\frac{15}{16}$

To begin with, find the Lowest Common Denominator (LCD), which is the smallest number that 8 and 16 go into.

The LCD is 16.

Then multiply the first fraction top and bottom by 2 so that both denominators are 16.

$$\begin{aligned} \frac{3}{8} + \frac{9}{16} &= \frac{6}{16} + \frac{9}{16} \\ &= \frac{6+9}{16} \\ &= \frac{15}{16} \end{aligned}$$

Written feedback system between student and teacher.

Next Question

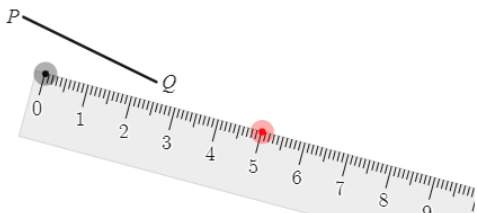
Continue Later

Teachers can either set a fixed set of questions, or set an automated task with Key Skills within a specific topic, where the difficulty increases and decreases within the task based on the performance of the student.

Q1

Exit

Use the ruler to measure the length of the line PQ drawn below.



Give your answer in centimetres.

Instructions:

- drag the black dot to move the ruler
- drag the red dot to rotate

cm

Solve for x :

$$\frac{5}{3x+4} + \frac{4}{3x+1} = 3$$

$x =$

or $x =$

You can optionally leave a comment for your teacher about this question/your answer. Press Alt+= to insert mathematical expressions.

Send

✓ Correct

The answer is $x = \frac{1}{3}$ or $x = -1$

$$\begin{aligned} \frac{5}{3x+4} + \frac{4}{3x+1} &= 3 \\ \frac{5(3x+1) + 4(3x+4)}{(3x+4)(3x+1)} &= 3 \\ \frac{15x+5+12x+16}{(3x+4)(3x+1)} &= 3 \\ \frac{27x+21}{(3x+4)(3x+1)} &= 3 \end{aligned}$$

$$27x+21 = 3(3x+4)(3x+1)$$

$$27x+21 = 3(9x^2+3x+12x+4)$$

$$27x+21 = 27x^2+45x+36$$

$$27x+21 = 27x^2+45x+36$$

$$0 = 27x^2+18x+15$$

Using the quadratic formula:

$$x = \frac{1}{3} \quad \text{or} \quad x = -1$$

Next Question

Continue Later

Draw a frequency polygon.

Joana collects the running times of 7 athletes and records the data in the table below.

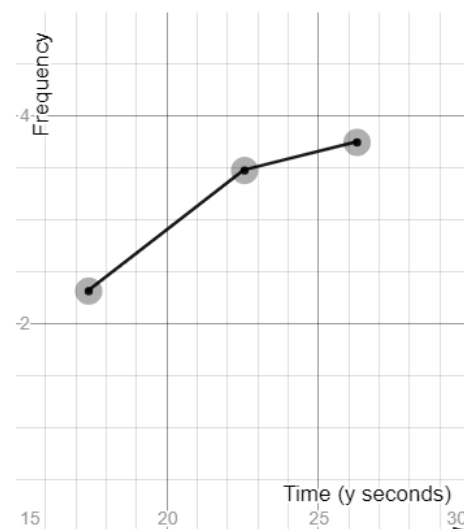
Draw a frequency polygon for the data in the table.

Time (y seconds) Frequency

$15 < y \leq 20$ 3

$20 < y \leq 25$ 1

$25 < y \leq 30$ 3



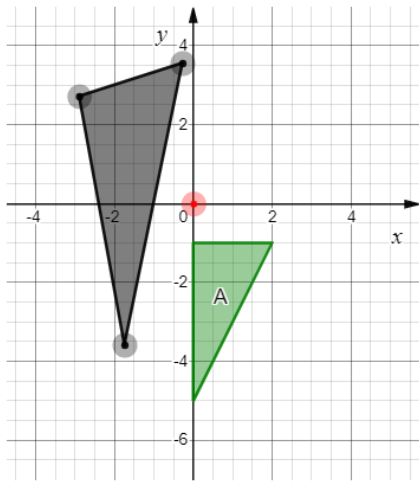
900 Key Skills so far and new ones created every week.

Get Fresh Example

Enlarge a shape by an integer scale factor.

Enlarge the shape by scale factor 2 about the point $(0, -6)$.

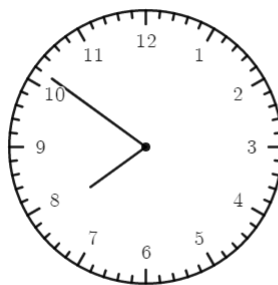
You can use the red dot to mark the centre of enlargement.



Submit Answer

Tell the time from an analogue clock.

Write down the time shown on the clock below, using the 12-hour clock.



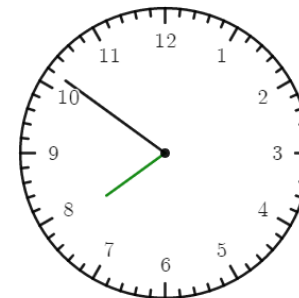
Input note: do not include "am" or "pm" in your answer.

7 : 51

✓ Correct

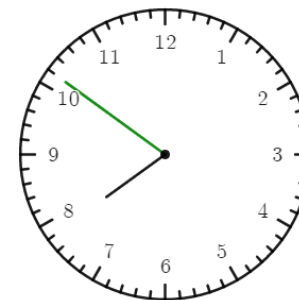
The answer is 7 : 51

Use the little hand to read the hour: it is between 7 and 8 so it is in the 7 o'clock hour.



Use the big hand to read the minutes: it is between 10 and 11 so use 10, multiply this number by 5 and add the 1 remaining tick.

$$10 \times 5 + 1 = 51$$



Therefore the time is 7 : 51

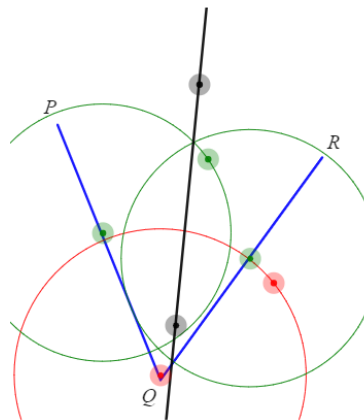
Get Fresh Example

Construct the bisector of an angle.

Bisect $\angle PQR$ drawn below.

Instructions:

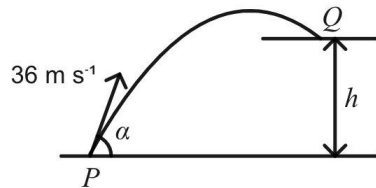
- Move the red dots and use these as a compass.
- Move the green dots and use these as a compass.
- Changing the radius of one green compass will change the radius of the other.
- Move the black dots to move the answer line.



Submit Answer

We use Desmos to allow high quality interaction from students, as well as generating diagrams for questions and answer explanations.

A small ball is projected with speed 36 m s^{-1} from a point P on horizontal ground. The angle of projection is α above the horizontal. A horizontal platform is at height h metres above the ground.



The ball moves freely under gravity until it hits the platform at the point Q , as shown. The speed of the ball immediately before it hits the platform at Q is 23 m s^{-1} .

Find the value of h .

$h =$ m

You can optionally leave a comment for your teacher about this question/your answer. Press Alt+Equals to insert mathematical expressions.

Send

...including Key Skills for age 16+.

✓ Correct

The answer is $h = 39 \text{ m}$

① Resolve the velocity at A :

$$R(\rightarrow) : u_x = 36 \cos \alpha$$

$$R(\uparrow) : u_y = 36 \sin \alpha$$

② Resolve the velocity at B

The horizontal component remains constant; use Pythagoras' theorem to find the vertical component at B .

$$R(\rightarrow) : v_x = 36 \cos \alpha$$

$$R(\uparrow) : v_y = \sqrt{23^2 - (36 \cos \alpha)^2}$$

③ Use *suvat* from A to B :

$$s = h$$

$$u = 36 \sin \alpha$$

$$v = \sqrt{23^2 - (36 \cos \alpha)^2}$$

$$a = -g$$

$$t =$$

$$v^2 = u^2 + 2as$$

$$23^2 - (36 \cos \alpha)^2 = 1296 \sin^2 \alpha - 2gh$$

$$529 - 1296 \cos^2 \alpha = 1296 \sin^2 \alpha - 2gh$$

$$2gh = 1296 \cos^2 \alpha + 1296 \sin^2 \alpha - 529$$

$$2gh = 1296(\cos^2 \alpha + \sin^2 \alpha) - 529$$

$$2gh = 1296 - 529$$

$$2gh = 767$$

$$h = \frac{767}{2g}$$

$$h = 39 \text{ m (to 2 sf)}$$

Next Question

Continue Later

Lots of classroom tools for teachers...

'Annotate' button, when viewing a question on the site, loads it up in the DFM Whiteboard for quick annotation.

B, and a

Difficulty: 1 2 3 4


Author: OCR



Report Error

Get URL

Edit

 Annotate



dfm



[Edexcel Linked Pair June 2017 Methods 1H Q18 Edited]

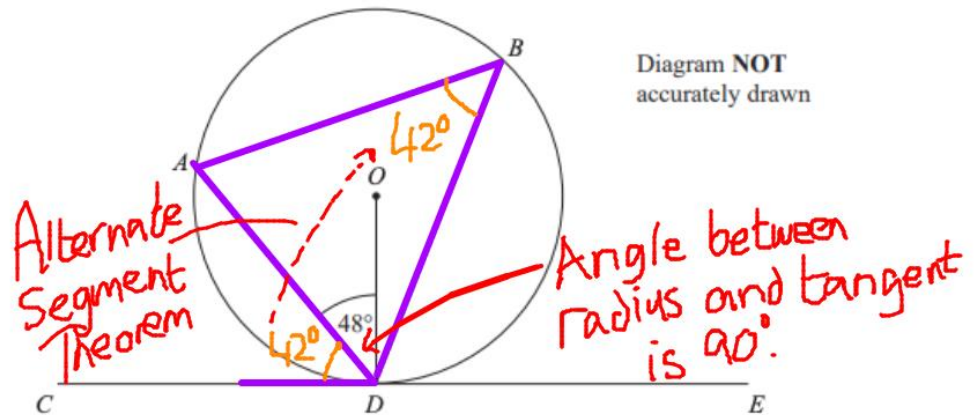


Diagram NOT accurately drawn

A, B and D are points on a circle, centre O.
CDE is a tangent to the circle.
Angle $ADO = 48^\circ$

Work out the size of angle ABD.

(4 marks)



°

dfm

Key Features

dfm

Search students, resources



Courses

Resources



J Frost



Courses → Schools → Tiffin School →

Year 7



Welcome to Tiffin School! In Year 7 you will reencounter some of the topics you learnt in Year 6, although in more depth, as well as some new ones. The topics you learn in Years 7-11 are broadly divided into four 'strands': Number (e.g. factors, primes, divisibility, decimals, percentages), Algebra (e.g. forming and solving equations), Shape & Space (e.g. angle laws, area/perimeter of shapes) and Data Handling & Probability.

Assigned Classes:

7KEH

7RC

7SER

7HXB

7MAG

7RG



Autumn 1

Negative Numbers
BIDMAS and Calculator Use
Algebraic Expressions
Fractions
Revision

Autumn 2

Sequences
Number Theory
Area & Perimeter

Spring 1

Fractions, Decimals & Percentages
Angles
Circle Properties

Easily design courses/Schemes of Work for your institution...

Spring 2

Summer 1

Summer 2

...that involves a mixture of rich-text content, reference to PowerPoints on the site/external resources, use of the Key Skill system, collections of questions and Topic Tests. Students can see their progress on the course and teachers can monitor.



Courses → Schools → Tiffin School → Year 7 → Autumn 1 →

Negative Numbers

Autumn 1 Summary

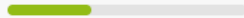
Negative Numbers

6 Key Skills, 2 Exam Skills



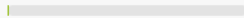
BIDMAS and Calculator Use

3 Key Skills, 2 Exam Skills



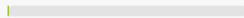
Algebraic Expressions

16 Key Skills, 5 Exam Skills



Fractions

13 Key Skills, 7 Exam Skills



Revision

38 Key Skills, 16 Exam Skills

- (a) Understand negative numbers using number line. $+$, $-$, \times , $/$ negative numbers.
- (b) Know how to subtract larger numbers using column subtraction.
- (c) Know what index notation means.

Resources



DOWNLOADABLE RESOURCE

Negative Numbers

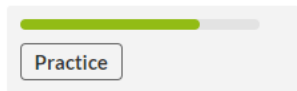
Covers multiplication, division, addition and subtraction of negative numbers.

Key Skills



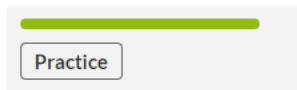
K99: Order a mixture of positive and negative numbers.

[Watch Video](#) [Show Example](#) [Set a Task](#) [Generate Worksheet](#)



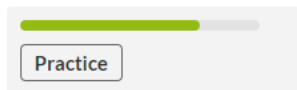
K100: Add a negative number to any number.

[Watch Video](#) [Show Example](#) [Set a Task](#) [Generate Worksheet](#)



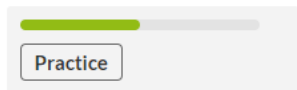
K101: Subtract a positive number from a negative number.

[Watch Video](#) [Show Example](#) [Set a Task](#) [Generate Worksheet](#)



K102: Subtract a negative number from any number.

[Watch Video](#) [Show Example](#) [Set a Task](#) [Generate Worksheet](#)



K103: Multiply a mixture of positive and negative numbers.





Pure (Year 2)

- Chp1 - Algebraic methods
- Chp2 - Functions and graphs
- Chp3 - Sequences and series
- Chp4 - Binomial expansion
- Chp5 - Radians
- Chp6 - Trigonometric functions
- Chp7 - Trigonometry and modelling
- Chp8 - Parametric equations
- Chp9 - Differentiation
- Chp10 - Numerical methods
- Chp11 - Integration
- Chp12 - Vectors
- Revision

Statistics (Year 2)

- Chp1 - Regression, correlation and hypothesis testing
- Chp2 - Conditional probability
- Chp3 - The normal distribution
- Revision

Mechanics (Year 2)

- Chp4 - Moments
- Chp5 - Forces and friction
- Chp6 - Projectiles
- Chp7 - Applications of forces
- Chp8 - Further kinematics
- Revision

...or assign pre-existing courses to learners by exam boards (e.g. Edexcel) and publishers such as **White Rose Maths**.

Home dashboard

dfm

Search students, resources



Donate

Courses

Resources

Work

J Frost



Dr J Frost

Tiffin School

School Points this Year: 1622669

School Global Rank: 12

Access to main functionality on the site.

? Training Events

? Getting Started Guide (pdf)

Week Summary



Hwks set: 4
Qs Answered: 10645
Points: 37626

Fxkfra Rqjax 1178 pts
Rhdqx Rlzhjwbak 795 pts
Krivmurba Ygn 771 pts

Summary by Class

Set Some Work

Set a homework or assessment, whether based on 'key skills', picking the questions yourself, or choosing topics/difficulty range.

Go

DFM Whiteboard

Virtual whiteboard that can connect with student devices and allows annotation over exam questions.

Go

Latest Homework

"Solve problems involving finding lengths in similar shapes. (Advanced)"

All of 9Z1/Me

✓ Completed by 10/32 students

Review All

Courses

View/build courses for your school's schemes of work, and explore courses by exam boards, publishers and other schools.

Go

Progress Data

View a timeline of student activity, progress by topic/course, generate reports and see summary statistics for your school.

Go

DFM Live!

A whole class game, on tablet/mobile devices, using a collection of questions or topics of your choice.

Play

Questions

Key Skills are randomly generated questions designed for repetitive practice. Exam Skills are questions from past exam papers.

Key Skills

Exam

Build Worksheet

Settings

Manage Classes
Manage Teachers

Resources

Explore everything available by topic, includes teaching slides, past paper questions, videos and Topic Tests.

Summary data for each class over the last week/month.

Notification feed.

✓ GkvhokbZR-H-Slimyx practised some Key Skills and achieved 100%

2 HOURS AGO

"Identify expressions that represent a multiple of an integer."

✓ PgydcviszX-Tvmnfga practised some Key Skills and achieved 100%

2 HOURS AGO

"Identify expressions that represent odd/even integers."

✓ HvtkkccwmJ-Nayqmnc practised some Key Skills and achieved 100%

2 HOURS AGO

"Draw the front elevation, side elevation or plan of a 3D shape."

✓ KkrJpvefg practised some topics and achieved 100%

18 HOURS AGO

"Trigonometry on triangles, including sine/cosine rules and area of a triangle and exact values for common angles."; "Graphs of sin, cos and tan."; "Solve trigonometric equations, involving sin, cos and tan, in an interval in degrees."; "Use formulae..."

✓ C...uryjtzq practised some topics and achieved

"Factorisation."; "Expand a single bracket."; "Expand two brackets."; "Factorise out a single term."; "Factorise quadratics of the form $x^2 + bx + c$ "; "Factorise a quadratic where the coefficient of the x

✓ MgbrgErcwfltyh practised some topics and achieved 57%

19 HOURS AGO

dfm

Key Features

dfm

Search students, skills and classes



Resources

Questions

Set Work

Progress



8



Homework/Assessments

Select individual(s)

11X4/Ma

Start Date:

01/09/2019

End Date:

30/05/2020

Homeworks & Assessments

Show whole class homeworks

Nov 2015 2H - Last

SET BY: DR J FROST, DUE DATE: NONE
NUM COMPLETED: 8/15

Rrljy 53B5/Xy

Analysis Export Edit x

June 2015 1H - Last

SET BY: DR J FROST, DUE DATE: NONE
NUM COMPLETED: 7/15

Rchdc 25D8/Cv

Analysis Export Edit x

Nov 2014 2H

SET BY: DR J FROST, DUE DATE: NONE
NUM COMPLETED: 0/15

Pqd fz 99L3/Lz

Analysis Export Edit x

Edexcel GCSE(9-1) No

SET BY: DR J FROST, DUE DATE: THU 19TH MAR 2020
NUM COMPLETED: 4/15

Bffxi 21U3/Le

Analysis Export Edit x

June 2015 2H - Last

SET BY: DR J FROST, DUE DATE: NONE
NUM COMPLETED: 2/15

Xsc as 55K0/OI

Analysis Export Edit x

June 2011 3H - Last

SET BY: DR J FROST, DUE DATE: NONE
NUM COMPLETED: 1/15

Obvby 92W7/Nc

By Question By Topic Worst Questions

Export

Mnrzlbhe, Szupys
List Attempts (1) View Progress

Npcoab, Gxdje
List Attempts (1) View Progress

Oviddxh, Isjifi
List Attempts (1) View Progress

Nmvdha, Hsgqfk
List Attempts (1) View Progress

Xtjezz, Oaouedj
List Attempts (1) View Progress

Wopy, Acsnq
List Attempts (1) View Progress

Foxr, Npfrig
List Attempts (1) View Progress

Day, Dhpmc
List Attempts (1) View Progress

Kuadydrs, Exriuy
List Attempts (1) View Progress

Gqolu, Dfcyox
List Attempts (1) View Progress

Myarrj, Accu
List Attempts (1) View Progress

15-1H of the a where nes.

Q5: [Edexcel GCSE Jun2015-1H Q21 Edited] $x = 0.04\bar{6}$ Using algebra, determine the f... Convert from a recurring decimal to a fraction.

Q6: [Edexcel GCSE Jun2015-1H Q22a] Find the value of 2^{-3} Deal with negative indices.

Q7: [Edexcel GCSE Jun2015-1H Q22b] $5\sqrt{5}$ can be written in the form 5^k . Fin... Deal with fractional indices.

Q8: [Edexcel GCSE Jun2015-1H Q22c] Work out the value of $(\sqrt{12} - \sqrt{3})^2$... Add and subtract surds. Simplify surds. Multiply and divide surds.

Q9: [Edexcel GCSE Jun2015-1H Q23] The diagram shows a container for grain. The container is a... Form algebraic expressions and equations from context. Find the volume of a composite shape.

Q10: [Edexcel GCSE Jun2015-1H Q24a] The diagram shows part of the curve with equation $y = f(x)$... Understand the effect of the transformations $y = f(x+a)$, $y = f(x)$, $y = f(bx)$, $y = f(cx)$.

✓ CORRECT View	✓ CORRECT View	✓ CORRECT View	✓ CORRECT View	✓ CORRECT View	✓ CORRECT View
✗ INCORRECT View	✓ CORRECT View	✗ INCORRECT View	✗ INCORRECT View		
✗ INCORRECT View	✓ CORRECT View	✗ INCORRECT View	✓ CORRECT View	✗ INCORRECT View	✗ INCORRECT View
✓ CORRECT View	✓ CORRECT View	✓ CORRECT View	✓ CORRECT View	✓ CORRECT View	✓ CORRECT View
✓ CORRECT View	✓ CORRECT View	✓ CORRECT View	✓ CORRECT View	✗ INCORRECT View	✗ INCORRECT View
✓ CORRECT View	✓ CORRECT View	✓ CORRECT View	✓ CORRECT View	✓ CORRECT View	✓ CORRECT View
✓ CORRECT View	✓ CORRECT View	✓ CORRECT View	✓ CORRECT View	✗ INCORRECT View	✓ CORRECT View
✓ CORRECT View	✓ CORRECT View	✗ INCORRECT View	✗ INCORRECT View	✗ INCORRECT View	✓ CORRECT View

Plenty of data analytics...



Key Features

dfm Search students, resources

HomeWORK/Assessments

Select individual(s) 10X1/Ma (JF) Start Date: 15/08/2021 End Date: 15/03/2022

Homeworks & Assessments Show whole class homeworks

← Return to Class Summary Full Breakdown By Topic By Question

	76% (29 answers) E231: Use algebraic techniques to prove a statement in the general case.	82% (28 answers) E153: Determine the equation of a straight line.	82% (28 answers) E217: Know the relationship between the gradients of perpendicular lines.	82% (28 answers) E37: Understand the definition of different 2D shapes and their properties.	84% (32 answers) E135: Expand two brackets.	86% (29 answers) E213: Successive dependent events, i.e. sampling without replacement (including	88% (32 answers) E171: Multi divide numt standard for
Wzdrs, Dwrghg	0/0	0/0	0/0	0/0	1/1	1/1	0/1
Hi-Vyvmq, Jqostr	1/1	1/1	1/1	1/1	1/1	0/1	1/1
Dly, Pwguw	1/1	1/1	1/1	1/1	1/1	1/1	1/1
Pmdar, Xhzzy	0/1	1/1	1/1	1/1	0/1	1/1	1/1
Nvxejzxfy, Majfts	1/1	0/1	0/1	0/1	1/1	1/1	1/1
Ujynxkadtwwkic, Kiiei	0/1	1/1	1/1	1/1	1/1	1/1	1/1
Bbw, Xscmomvq	1/1	1/1	1/1	1/1	1/1	1/1	1/1
Xiwxn, Ellx	1/1	1/1	1/1	1/1	0/1	1/1	0/1
					1/1	0/1	0/1
					1/1	1/1	1/1
					1/1	1/1	1/1

...including a breakdown on each task by skill.

Full Breakdown
 By Topic
 By Question

Worst to Best ▾



Export to Word

Question 7

35% correct (17 attempts)

$$3 + \frac{6}{x+5} + \frac{1}{x+1}$$

✓ 12%

$$3 + \frac{6}{x+5} + \frac{1}{x+1}$$

✓ 12%

$$3 + \frac{1}{(x+1)} + \frac{6}{(x+5)}$$

✓ 6%

$$3 + \frac{1}{x+1} + \frac{6}{x+5}$$

✓ 6%

$$\frac{6}{x+5} + \frac{1}{x+1} + 3$$

✗ 18%

$$\frac{1}{x+1} + \frac{6}{x+5}$$

✗ 6%

$$\frac{-6}{x+5} + \frac{1}{x+1}$$

✗ 6%

$$3 + \frac{7x+11}{x^2+6x+5}$$

✗ 6%

$$\frac{6}{x+5} + \frac{1}{x+1}$$

Express

$$\frac{3x^2 + 25x + 26}{x^2 + 6x + 5}$$

in partial fractions

...and identifying misconceptions.

[WJEC GCSE

Solve $\frac{2x-3}{4}$

(3 marks)

$x =$

Matilda McStudent **Interact**

[WJEC GCSE: Summer 2019 Foundation Paper 1 Q2(b)]
Solve $\frac{2x-3}{4} = 3x$
Give answer
x =

$2x-3=12x$
 $-3=10x$
 $x=-\frac{3}{10}$

Ron Weasley **Interact**

[WJEC GCSE: Summer 2019 Foundation Paper 1 Q2(b)]
Solve $\frac{2x-3}{4} = 3x$
Give answer
x =

$2x-3=12x$

And with the ability to connect with multiple student whiteboards. The 'master teacher whiteboard' can draw onto all whiteboards, or interact with individual ones.

You can choose from ~41,000 questions (mostly past papers) to 'project' onto the student screens.

Homework/classwork customisation...

Edexcel GCSE(9-1) June 2017 2H

Note that students won't see the exam tag within the question content.

Set task for:

Due: No Due Date

Set:

Set as **Homework/Classwork**
Students get instant feedback after submitting each answer.

Set as an **Assessment**
Students do not see the answers until the due date specified by you. Students can not redo the assessment unless it is set again by the teacher.

Options

Warn when Wrong: ?

Prevent Reattempts: ?

Require Working: ?

Require Videos: ?

Time Limit:

Accuracy measure: ?

Schedule homework/assessments in advance.

'Assessment' mode prevents students getting feedback until the due date. Intended for formal exams.

Build collections of questions with ease...

41,000 questions in the fixed database, with a mixture of Edexcel, AQA, OCR, UKMT, Eduqas/WJEC, KS2/3 SATs.

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Resources Questions Set Work Progress

Yr9 EOY Paper 2 - 2020

View: /DFM/Tiffin School/Restricted/Landmarks

Set to Students Save Save As Export to Word Live! Game Practice Mode Delete Share View Mode Edit Mode

Question 1 [1][2][3][4]

[Edexcel GCSE June 2006-41 Q26]

Barry buys 25 identical pens for £3.25.

Work out the cost of 5 of these pens.

(2 marks)

Submit Answer

Question 2 [1][2][3][4]

[Edexcel GCSE(9-1) Nov 2017 3F Q22, Nov 2017 4H Q4]

There are only blue pens, green pens and red pens in a box.

The ratio of the number of blue pens to the number of green pens is 2 : 5

The ratio of the number of green pens to the number of red pens is 4 : 1

Question 3 [1][2][3][4]

[Edexcel GCSE(9-1) Mock Set 1 Autumn 2016 3F Q15b]

The n th term of a number sequence is $n^2 + 7$

128 is a term of this sequence.

(b) Which term?

(1 mark)

2 12 28 50

Find the values of a , b and c .

(4 marks)

Question 5

[OCR GCSE(9-1) June 2017 6H Q9a]

Triangle A is drawn on the grid.

Enlarge triangle A with scale factor $\frac{1}{3}$ and centre of enlargement $(-1, 5)$.

(3 marks)

Click/Press each point of your

Question 7

[AQA GCSE June 2015 1H Q13]

Triangles ABC and PQR are similar.

12 cm 15 cm 16 cm

Diagram NOT accurately drawn

Question 8 [1][2][3][4]

[Edexcel IGCSE Jan 2016(R)-4H Q13b]

The diagram shows triangle ABC .

22 cm 28.2 cm 20 cm

Diagram NOT accurately drawn

Set the worksheet to students to complete online.

Or export to Word with a markscheme.

Play as a classroom game where students use their tablets/mobile devices.

13X2 Homework

Question 1

Solve $\tan (2x - 20) = 0$ in the interval $-180^\circ < x < 90^\circ$

Give your solution(s) correct to 2 decimal places where appropriate.

$$x = \dots\dots\dots^\circ$$

$$x = \dots\dots\dots^\circ$$

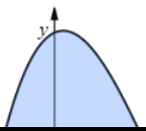
$$x = \dots\dots\dots^\circ$$

Question 2

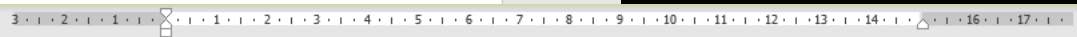
The diagram below shows the graph of

$$f(x) = (x + 1)(x - 2)(x - 3).$$

Find the exact area of the shaded region.



Exported paper in Word with mark scheme automatically generated.



Question 14

$$\frac{8}{42}$$

$$\frac{2}{7} \times \frac{1}{6} \text{ or } \frac{3}{7} \times \frac{2}{6}$$

$$\frac{2}{7} \times \frac{1}{6} + \frac{3}{7} \times \frac{2}{6}$$

$$\frac{8}{42}$$

$x < 1.75$ is A0
2.25

M1 Replacement $\cdot \frac{2}{7} \times \frac{2}{7}$ or $\frac{3}{7} \times \frac{3}{7}$

M1 Replacement $\cdot \frac{2}{7} \times \frac{2}{7} + \frac{3}{7} \times \frac{3}{7}$

A1 $\frac{8}{42}$ oe

Question 15

$$\frac{n}{2n+1}$$

Conclusion from accurate algebra

CI for method to find probability of two red, e.g. $\frac{n}{2n+1} \times \frac{n-1}{2n}$ or two blue, e.g. $\frac{n+1}{2n+1} \times \frac{n}{2n}$ or different colours, e.g. $\frac{n+1}{2n+1} \times \frac{n}{2n}$ or $\frac{n}{2n+1} \times \frac{n+1}{2n}$

CI for probability of two of the same colour,
e.g. $\frac{n}{2n+1} \times \frac{n-1}{2n} + \frac{n+1}{2n+1} \times \frac{n}{2n}$ or $1 - \left[\frac{n+1}{2n+1} \times \frac{n}{2n} + \frac{n}{2n+1} \times \frac{n+1}{2n} \right]$

CI for method to reduce to a single fraction

From the Key Skills system, you can select a collection of skills, select the number of questions you want, and DFM will instantly make a random worksheet generator for you; each click of **Generate** makes a random new one!

dfm Search students, resources

Resources Questions Set Work Progress

Template Title

No saved location

Generate Save Save As Delete

New Worksheet

No saved location

Set to Students Save Save As Export to Word Live! Game Practice Mode Share View Mode Edit Mode

Question 1

Exam Q Key Skill

Key Skill: Draw a cumulative frequency graph given a frequency table.

Question 2

Exam Q Key Skill

Key Skill: Use a cumulative frequency graph to estimate the median.

Question 3

Exam Q Key Skill

Key Skill: Draw a stem-and-leaf diagram.

Question 4

Exam Q Key Skill

Question 1 KS

Joana collects the running times of 90 athletes and records the data in the table below.

Draw a cumulative frequency graph for the data in the table.

Time (y seconds)	Frequency
$0 < y \leq 5$	5
$5 < y \leq 10$	9
$10 < y \leq 15$	60

Report Error

Question 2 KS

Joana collects the heights of some flowers and plots the values on the cumulative frequency graph below.

Use the cumulative frequency graph to estimate the median of the data.

Report Error

Question 3 KS

Sam collects the running times of some pupils and records the data below.

33	51	62	44	74
32	45	48	70	35
78	59	56		

Put the data in a stem-and-leaf diagram.

Key: 3 | 8 = 38 seconds

Report Error

Question 4 KS

Report Error

Question 5 KS

John collects the heights of some flowers and plots the values on the cumulative frequency graph below.

Use the cumulative frequency graph to estimate the median of the data.

Report Error

Question 6 KS

Elliot collects the heights of some toys and records the data below.

68	51	80	84	64
71	75	68	90	59
52	75	93	88	56
84	63			

Put the data in a stem-and-leaf diagram.

Report Error

We're all about **giving teachers control** whilst **providing autonomy** where wanted, to save time. Teachers have a variety of different formats of task they can set, whether using Key Skill or Exam Skill questions, and either choosing the questions, using a pre-existing collection of questions, or allowing the system to intelligently pick the questions for each student as they progress through a task, based on past performance and meeting accuracy criteria.

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Donate

Courses

Resources

Work

J Frost

What type of task?

Key Skills

Key Skills are finegrained question types where students can repetitively practise randomly generated questions with accompanying short worked example videos.

[Key Skills →](#)

Exam Questions

A huge database of questions with questions from exam boards such as Edexcel, AQA, OCR, Eduqas, KS2/3 SATS, UKMT as well as user contributed questions.

[You Choose the Questions →](#)

All students receive the same questions. You select the questions in advance.

[Past Papers →](#)

Choose an existing paper, with the option to modify the paper first.

[Questions by Topic →](#)

Questions are chosen for students on the fly. If the difficulty level is set to auto, students can move up and down difficulty levels.

[Topic Test →](#)

Students earn Topic Medals by completing Topic Tests. These are short assessments consisting of 8 past paper exam questions.

Resource Explorer

See all the downloadable resources, Key Skills, videos and Topic Tests available for each topic.

dfm

Search students, skills and classes



Resources

Questions

Set Work

Progress



KS2/3/4 KS5 Other

Shape, Space & Measures

2D Properties of Shapes

3D Shapes

3D Volume, Surface Area

Angles

Area & Perimeter

Circle Theorems

Compound Measures and Units of Measurement

Construction, Loci & Scale Drawings

Coordinates

Distance/Velocity Time Graphs

Miscellaneous

Pythagoras

Revision

Similarity & Congruency

Symmetry

Time

Transformations

Trigonometry

Area & Perimeter

Downloadable Resources



GCSE/KS3 Area & Circumference of Circles

3 files 13/03/2020

Includes fractions of circles and compound shapes involving circles. Suitable for both Foundation and Higher Tier.



GCSE/KS3 Area & Perimeter of Quadrilaterals & Triangles

3 files 13/02/2020

Square, rectangles, triangles, parallelograms, trapeziums. Covers all aspects of the GCSE9-1 syllabus. Suitable for both Foundation and Higher Tier GCSE students, as well as KS3. Solutions to the worksheets are in the slides.



GCSE Arcs & Sectors

3 files 09/02/2020

Covers all aspects of the GCSE9-1 syllabus. Includes problem-solving with arcs/sectors and two exercises consisting of past paper exam questions.



GCSE/KS3 - Area & Perimeter by Counting

3 files 23/01/2020

Includes two printable exercises, the solutions of which are in the slides. Only intended for KS3 or Foundation Tier GCSE students.

Key Skills

Key Skills are finegrained question types where students can practise randomly generated questions with accompanying short worked-example videos.

22 Key Skills available

Individual Subtopics

"Find the perimeter and area of rectilinear shapes, including rectangles."

For Students

Watch a Video
Practise Questions

For Teachers

Browse Questions

To Work On

Topic Test - Standard
Topic Test - Advanced
Review Qs Completed

★★ 0/2 Topic Medals

5 Points

"Find the area of a triangle."

For Students

For Teachers

Not Encountered

Topic Test - Standard

"DFM Live!"

Whole-class game where students participate on their mobile/tablet device. Can be used with main question database or with Key Skills.

The screenshot displays the DFM Live! interface. At the top, a navigation bar includes the 'dfm' logo, a search bar, and menu items for Resources, Questions, Set Work, and Progress. The main content area features a question card with the following text: "Question: 1 Difficulty: 1 2 3 4 Author: Edexcel" and "[Edexcel GCSE Nov2012-1F Q1a] Here are some solid 3-D shapes." Below this text are five diagrams labeled A through E: A (cylinder), B (cuboid), C (cone), D (pyramid), and E (sphere). The question prompt reads "Write down the letter of the shape that is a prism." To the right, a leaderboard shows "127 answers in" and a list of names with their completion times: Dom (2.00 secs), Hannah (2.55 secs), Pete (2.59 secs), PAUL R (2.71 secs), Steph (2.79 secs), Jo (2.91 secs), and Dom (2.90 secs). A "Stop Waiting" button and "Num Active Participants: 135" are also visible. In the top right corner, a video feed shows Jamie Frost. At the bottom, a video shows a group of students in a classroom, many with their hands raised in excitement.

dfm Search students, skills and classes

Resources Questions Set Work Progress

Question: 1 Difficulty: 1 2 3 4 Author: Edexcel

[Edexcel GCSE Nov2012-1F Q1a]
Here are some solid 3-D shapes.

A B C D E

Write down the letter of the shape that is a prism.

127 answers in

Dom	2.00 secs
Hannah	2.55 secs
Pete	2.59 secs
PAUL R	2.71 secs
Steph	2.79 secs
Jo	2.91 secs
Dom	2.90 secs

Stop Waiting

Num Active Participants: 135

Contact Me

And it's all damn smart...

$$x + 2y = 0$$

$$y = -\frac{1}{2}x$$

$$\ln(x^2)$$

$$2 \ln x$$

DrFrostMaths uses highly advanced algorithms to spot algebraically equivalent expressions and equations.

These kick in when mark schemes allow 'or equivalent'.

Trying to provide for all learners...

Lower Prior
Ability

Middle
Ability

Higher
Ability



KS2/3

Key Skills

Main Q Database:
PMC Questions

Main Q Database:
KS2/3 SATS Qs

Main Q Database:
UKMT JMC Questions

KS4

Key Skills

Main Q Database:
GCSE Foundation

Main Q Database:
GCSE Higher Tier

Main Q Database:
UKMT IMC
Questions

KS5

Key Skills

Main Q Database:
A Level Past Paper Qs

Main Q Database:
UKMT SMC Questions

Main Q Database:
MAT Questions

Testimonials

“The new style homework platform launched by Dr Frost is just brilliant. It is so well thought of at Rushey Mead Academy that we have completely ditched the subscription to a similar paid homework platform as we view Dr Frost’s as far superior in terms of the usability and quality of questions. This has also freed up some much needed funds to buy manipulatives for students to use to support their learning. All of our KS4 students are set homework from the Dr Frost website and many students in both KS3 and KS4 use it on a regular basis for personal revision. Feedback from students and staff is always positive and it is cited as a key strength by our Leavers when asked what helped them in maths. Since becoming familiar with Dr Frost’s resources I have introduced them to more and more teachers at Rushey Mead Academy and lots of them have now be linked into our curriculum as recommended resources to use.

The Dr Frost resources are definitely having a hugely positive impact on students’ outcomes and enjoyment of mathematics at Rushey Mead Academy. Our Maths Progress 8 score has risen from 0.5 to 1.2 in the last three years and I think that the website has definitely contributed to that success.”

Rushey Mead Academy

Formerly #1 school on Hegarty Maths for number of questions answered.

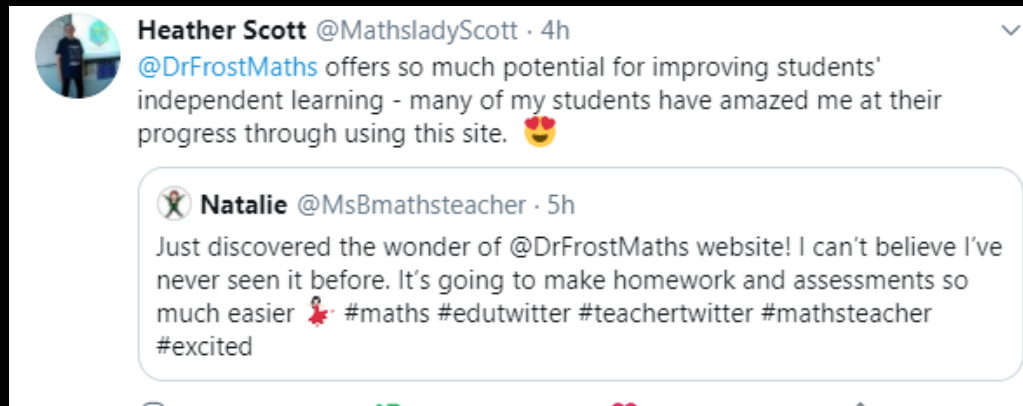
Testimonials

“Being on the remote British Island of St Helena resources and funds are rather hard to come by, so you have been a saviour in that regard.” (Teacher)

“Since we found it maths has become a lot more enjoyable and we understand it more. You are a great inspiration and we would love to meet you. From Year 9 Set 4” (Student)

I wanted to say thank you for how you have inspired me since I took my role a couple of years ago. We have managed to change Maths from the most loathed subject to the most liked. We have increased our end of year 8 attainment from 35% at age related expectations 2 years ago to 90% this year. (Teacher)

I have conducted a project as part of my NPQML qualification using your site as the basis of improving the progress in mathematics. I did a quick chi squared test using actual GCSE grades and DrFrost points and it showed a strong link between engagement with your site and GCSE performance. So a great big thank you - it really has made a difference! (Teacher)



Testimonials

"My child has been disinterested in maths at best - DrFrostMaths has completely changed their attitude to the subject. The format of questions and example videos has allowed them to self study, and for the first time they're enjoying maths and even going as far as saying how easy it is, given their new found understanding. **Your site has been quite likely life changing for my child.**"

Parent (via email)

Book a Training Session!

www.dr frostmaths.com/training

Free regular webinars with one of our DFM
Champions.

If you have any questions...

support@drfrostmaths.com

For general support and assistance.

jamie@drfrostmaths.com

For direct contact with Jamie, more general enquiries
or bug reports.