



# Year 11 Maths Workshop

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# Key Dates

- ▶ Year 11 Parents Evening - 5<sup>th</sup> Feb
- ▶ March Mocks - 2<sup>nd</sup> March - 6<sup>th</sup> March
- ▶ GCSE Paper 1 Non-Calculator - 19<sup>th</sup> May
- ▶ GCSE Paper 2 Calculator - 4<sup>th</sup> June
- ▶ GCSE Paper 3 Calculator - 8<sup>th</sup> June

	Monday	Tuesday	Wednesday	Thursday	Friday	Notes
02/09/2019						
09/09/2019						
16/09/2019						
23/09/2019						
30/09/2019						
07/10/2019						
14/10/2019						
21/10/2019						
28/10/2019	October Half Term					
04/11/2019						
11/11/2019						
18/11/2019						
25/11/2019						
02/12/2019						
09/12/2019						
16/12/2019						
23/12/2019	Christmas					
30/12/2019	Christmas					
06/01/2020						
13/01/2020						
20/01/2020						
27/01/2020						
03/02/2020						
10/02/2020						
17/02/2020						
24/02/2020	February Half Term					
02/03/2020						
09/03/2020						
16/03/2020						
23/03/2020						
30/03/2020						
06/04/2020	Easter					
13/04/2020	Easter					
20/04/2020	Easter					
27/04/2020	Easter					
04/05/2020	Easter					
11/05/2020	Easter					
18/05/2020	Easter					
25/05/2020	Easter					
01/06/2020	May Half Term					
08/06/2020	GCSE C		GCSE Pure 1	GCSE C		
15/06/2020			GCSE Pure 2		GCSE Maths	
22/06/2020						
29/06/2020						
06/07/2020						
13/07/2020						
20/07/2020						
	Summer					



# Task 1 - RTQ

Ask your partner to start a timer and then follow the instructions in 'task 1' in your workshop pack. See who can finish the task the quickest.

## **Takeaway:**

- Ensure questions are read thoroughly
- Identify key information
- Focus on what the question is asking you to do



# Hegarty Maths

Algebra > Substitution

## Substitution (equations of motion 1)

### Example

If  $u = 14$ ,  $a = -2$ ,  $t = 5$  and  $v = u + at$ , evaluate  $v$ .



Spotted a mistake in this video?

## 788 - Substitution (Equations of motion 1)

Learn how to substitute integers into equations of motion.

Video watched 0.00x

Your score **New lesson** HegartyMaths avg 74%

[Do quiz](#)

[Preview questions](#)

## Building blocks

Question preview

If  $x = 4$  and  $y = 9$ , evaluate the following expression:

$$x + y$$

Algebra > Substitution

## 781 - Substitution (2)

Video watched 0.00x

Your score **New lesson** HegartyMaths avg 82%





## Task 2 - Terminology

Depending on how a question is worded can alter what you need to do to answer it. Match the key 'command' words to their definition

### **Takeaway:**

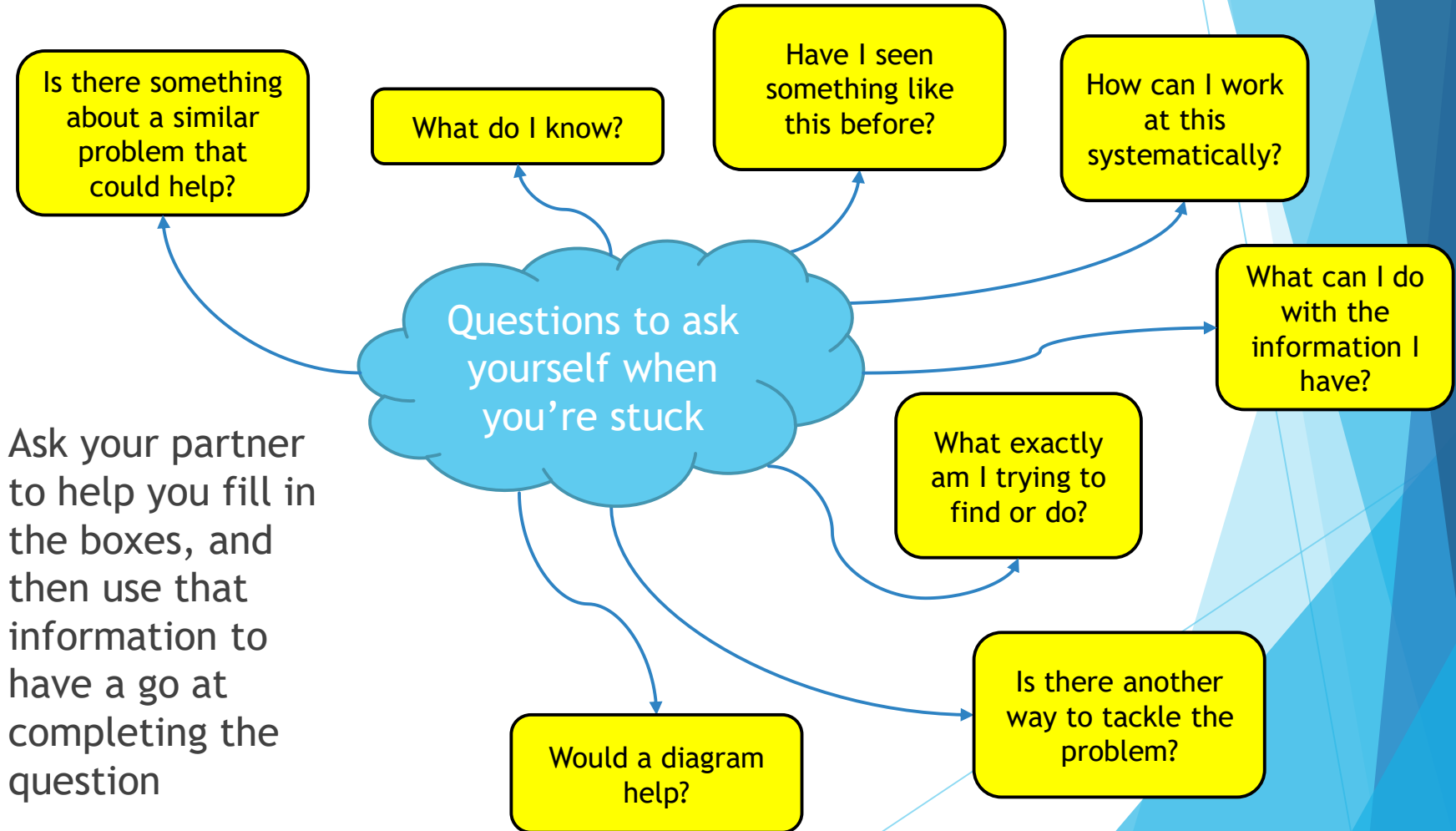
- Learn your mathematical terminology
- Use It in discussion
- Identify what the question is asking you to do
- Making a mistake, understanding it and correcting is key!



<b>Explain</b>		Produce an accurate drawing
<b>Show</b>		Write a sentence to show how you got your answer
<b>Draw</b>		Produce a drawing not to scale but with key information
<b>Sketch</b>		All working is needed to get full marks
<b>Solve</b>		Fill in missing values
<b>Complete</b>		Write in a simpler way (e.g. fractions, expressions)
<b>Find</b>		Find the solution to an equation or inequality
<b>Simplify</b>		Some working will be needed to get the final answer
<b>Factorise</b>		Show in its simplest form
<b>Expand</b>		Insert brackets by taking out common factors
<b>Fully</b>		Multiply out brackets
<b>Prove</b>		Show all your working and/or give a written explanation
<b>Give a reason</b>		Determine the answer
<b>Justify</b>		All steps of working must be present
<b>Calculate</b>		Reasons must be given at every stage with correct terminology
<b>Evaluate</b>		Find a numerical value for



# Task 3 - Problem Solving



Ask your partner to help you fill in the boxes, and then use that information to have a go at completing the question



## Task 3 - Problem Solving

### Takeaway:

- When working on your own, change the style of questions you're asking
- Rather than 'how' (i.e. how do I do this?) think 'what' (i.e. what do I already know?)





## Task 4 - Pacing

Complete the following 4 questions in 4 minutes; your number is 443

1.0

Add 284

727

2.0

Cube it

86938307

3.0

Multiply by 100

44300

4.0

In standard form

$4.43 \times 10^2$



## Task 4 - Pacing

### Takeaway:

- 1 mark = 1 minute
- Don't get stuck on one question; come back to it
- Time your child when they do past papers and exam questions



# Flash Cards and Revision Resources

PUT IN EXAMPLE PICTURES

The front should include key information; e.g. formula, diagram, definitions...etc

The back should include a perfect, model answer



## Takeaway:

- Look at resources before you buy them
- Keep flashcards simple
- Ask your child to recall information while you have the flashcard

# Multiplying and dividing

You need to be able to multiply and divide numbers without a calculator.  
For a reminder about multiplying and dividing by 10, 100 and 1000 have a look at page 61.

### Mental methods

Try these methods for multiplying and dividing quickly in your head.

$37 \times 8$	Split 37 into 30 and 7. Then multiply each by 8. Add the answers to get the total.	$54 \div 6$	Try to find a multiplication fact using 6 with 54 as the answer.
$30 \times 8 = 240$		$6 \times \square = 54$	
$7 \times 8 = 56$		The answer is 9.	
$37 \times 8 = 296$			

### Worked example

Work out (a)  $49 \times 3$  (2 marks) (b)  $36 \times 24$  (3 marks)

$\begin{array}{r} 49 \\ \times 3 \\ \hline 147 \end{array}$	$\begin{array}{r} 36 \\ \times 24 \\ \hline 144 \\ 720 \\ \hline 864 \end{array}$
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Always multiply from right to left.

- $9 \times 3 = 27$ . Write down 7 and carry over 2 (2 tens).
- $4 \times 3 = 12$ . Add on the carry-over.  $12 + 2 = 14$ . Write down 14.

### Examiners' report

Remember that this is a **non-calculator** question. You need to show all your working.

- Work out  $36 \times 4$ . (Answer = 144)
- Work out  $36 \times 20$ . Write down 0 and then work out  $36 \times 2$ . (Answer = 720)
- Add the answers. ( $144 + 720 = 864$ )

Multiplying and dividing are **much easier** if you are confident with your **times tables** up to  $10 \times 10$ .

Real students have struggled with questions like this in recent exams - **be prepared!**

### Worked example

Work out  $288 \div 9$  (2 marks)

$$\begin{array}{r} 32 \\ 9 \overline{)288} \\ -27 \phantom{0} \\ \hline 18 \\ -18 \\ \hline 0 \end{array}$$

You can use long division.

- Does 9 divide into 2? No.
- Does 9 divide into 28? Yes.  $9 \times 3 = 27$  so 9 divides into 28 three times with remainder 1.
- Does 9 divide into 18? Yes.  $9 \times 2 = 18$  so 9 divides into 18 two times with no remainder.


Using short division the calculation would look like this:

$$\begin{array}{r} 32 \\ 9 \overline{)288} \end{array}$$

### Now try this

- 1 (a) Work out  $72 \times 100$  (1 mark)  
(b) Work out  $256 \times 9$  (1 mark)  
(c) Work out  $29 \times 78$  (2 marks)
- 2 (a) Work out  $468 \div 3$  (2 marks)  
(b) Work out  $1032 \div 8$  (2 marks)
- 3 There are 18 chocolate coins in a bag. Paula buys 6 of these bags. Paula has 7 grandchildren. She wants to give each of her grandchildren 15 coins. Has she bought enough coins? (3 marks)

You need to answer 'yes' or 'no' to the question, and show your working to justify your answer.





## Task 5 - Revision Timetable

Place the following items in the example revision timetable, as best you see fit for a successful outcome.

Trig Ratios	Pythagoras	Osmosis	Energy Changes	Forces
Erosion	LEDC	Photosynthesis	Atomic Structure	Magnetism
WW2 Outbreak	WW2 Impact	French Nouns	French Articles	Comparing Texts; Poetry
Ratio; sharing	Trig; Non-right angles	Lord of the Flies Themes	Shakespeare; Hamlet characters	Analysing Structure
Ratio; vectors	Interior Angles Polygons	Exterior Angles Polygons	Decimal Calculation	Multiplying Powers of 10
Sketching Quadratics	Solving Quadratics	Frequency Polygons	Stem and Leaf	Converting Units



# Task 5 - Revision Timetable

It is recommended to be doing roughly 15-20 hours of revision a week

## Takeaway:

- Start with less hours and build up over time (particularly if you start early!)
- Have an even spread of subjects
- Allow, and even better plan in, downtime
- Everyone is unique; make sure this is reflected in the timetable