



# MATHS TEACHER HUB

Homework bundle available now

120 pages of GCSE Foundation

Exam style questions

With answers included

Question sheet

MATHS TEACHER HUB

Foundation Homework 1 : Number

- Write the following numbers in ascending order.  
0.5, 0.15, 0.501, 0.05, 0.015  
.....  
(2 marks)
- Write 0.7 as a percentage.  
.....  
(1 mark)
- Find 20% of £60.  
.....  
(1 mark)
- Write 0.15 as a fraction in its simplest form.  
.....  
(2 marks)
- Round 12.45172 to 1 decimal place.  
.....  
(1 mark)
- Write down the seventh square number.  
.....  
(1 mark)
- Workout  $73 \times 24$   
.....  
(2 marks)
- Work out  $93 \div 3$   
.....  
(1 mark)
- Work out  $-5 \times 7$   
.....  
(1 mark)
- Work out  $6^2 + \sqrt{100}$   
.....  
(2 marks)

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Foundation Homework 1 : Number

- Share £12 between Ben and Lucie in the ratio 3:1.  
.....  
(2 marks)
- Six identical magazines cost £7.80  
How much would 4 cost?  
.....  
(2 marks)
- Work out  $\frac{1}{5} + \frac{1}{4}$   
.....  
(2 marks)
- Workout  $\frac{4}{5} - \frac{1}{4}$   
.....  
(2 marks)
- Workout  $\frac{2}{5} \times \frac{3}{4}$   
.....  
(2 marks)
- Workout  $\frac{1}{2} \div \frac{3}{4}$   
.....  
(2 marks)
- Write down all the factors of 10.  
.....  
(2 marks)
- What is  $\frac{1}{5}$  of 35.  
.....  
(1 mark)
- Write  $3.51 \times 10^4$  as an ordinary number.  
.....  
(2 marks)
- Convert 0.000516 into standard form.  
.....  
(2 marks)

Score =

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Foundation Homework 1 : Number

- Write the following numbers in ascending order.  
0.5, 0.15, 0.501, 0.05, 0.015  
0.015, 0.05, 0.15, 0.5, 0.501  
.....  
(2 marks)
- Write 0.7 as a percentage.  
70%  
.....  
(1 mark)
- Find 20% of £60.  
£12  
.....  
(1 mark)
- Write 0.15 as a fraction in its simplest form.  
 $\frac{3}{20}$   
.....  
(2 marks)
- Round 12.45172 to 1 decimal place.  
12.5  
.....  
(1 mark)
- Write down the seventh square number.  
49  
.....  
(1 mark)
- Workout  $73 \times 24$   
1752  
.....  
(2 marks)
- Work out  $93 \div 3$   
31  
.....  
(1 mark)
- Work out  $-5 \times 7$   
-35  
.....  
(1 mark)
- Work out  $6^2 + \sqrt{100}$   
46  
.....  
(2 marks)

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Foundation Homework 1 : Number

- Share £12 between Ben and Lucie in the ratio 3:1.  
9:3  
.....  
(2 marks)
- Six identical magazines cost £7.80  
How much would 4 cost?  
£5.20  
£1.30 each  
.....  
(2 marks)
- Work out  $\frac{1}{5} + \frac{1}{4}$   
 $\frac{9}{20}$   
.....  
(2 marks)
- Workout  $\frac{4}{5} - \frac{1}{4}$   
 $\frac{11}{20}$   
.....  
(2 marks)
- Workout  $\frac{2}{5} \times \frac{3}{4}$   
 $\frac{3}{10}$   
.....  
(2 marks)
- Workout  $\frac{1}{2} \div \frac{3}{4}$   
 $\frac{2}{3}$   
.....  
(2 marks)
- Write down all the factors of 10.  
1,2,5,10  
.....  
(2 marks)
- What is  $\frac{1}{5}$  of 35.  
7  
.....  
(1 mark)
- Write  $3.51 \times 10^4$  as an ordinary number.  
35100  
.....  
(2 marks)
- Convert 0.000516 into standard form.  
 $5.16 \times 10^{-4}$   
.....  
(2 marks)

Score =

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Answer sheet


# MATHS TEACHER HUB


6 different sets to work through


1-10 = Number  
 11-20 = Algebra  
 21-30 = Shape  
 31-40 = Probability  
 41-50 = Angles  
 51-60 = Data

**MATHS TEACHER HUB**  
 Foundation Homework 21: Shape

1. Name this polygon.  (1 mark)

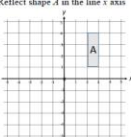
2.  Name, Faces, Vertices, Edges for each. (9 marks)

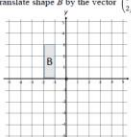
3. Calculate the perimeter of this shape.  (1 mark)


4.  (i) Which two shapes are congruent? (ii) Which two shapes are similar? (2 marks)

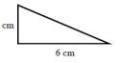
Score =

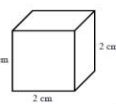
**MATHS TEACHER HUB**  
 Foundation Homework 21: Shape

5. Reflect shape A in the line x-axis.  (2 marks)

6. Translate shape B by the vector  $\begin{pmatrix} 3 \\ 2 \end{pmatrix}$ .  (2 marks)

7. Calculate the area of this shape.  (2 marks)

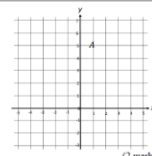
8. Calculate the area of this shape.  (2 marks)

9. Calculate the volume and surface area of the cube below.  (5 marks)

Score =

**MATHS TEACHER HUB**  
 Foundation Homework 11: Algebra

1. Here is an arithmetic sequence 2, 4, 6, 8, 10, ...  
 (i) Write down the next two terms.  
 (ii) What is the rule.  
 (iii) What is the Nth term. (3 marks)

2.  (a) Write down the coordinate A. (b) Plot the coordinate B (5, -2). (2 marks)

3. Simplify  $a + a + a + a$ . (1 mark)

4. Simplify  $5 \times x \times 4 \times f$ . (1 mark)

5.  $a = 5$   $b = 3$   $c = 2$   
 Work out the value of  $3a + 2b$ . (2 marks)

6. Simplify  $m^2 \times m^3$ . (1 mark)

Score =

**MATHS TEACHER HUB**  
 Foundation Homework 11: Algebra

7. Calculate  $4 \times 3 + 1 \rightarrow x$ . (1 mark)

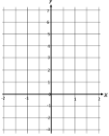
8. Simplify  $y \times y$ . (1 mark)

9. Expand  $3(x + 2)$ . (1 mark)

10. Factorise  $4a + 8$ . (2 marks)

11. Solve  $x + 6 = 10$ . (1 mark)

12. Show the inequality  $x < 3$  on the number line below. (1 mark)

13. Complete the table of values for  $y = 2x + 1$ .  On the grid draw the graph of  $y = 2x + 1$ . (4 marks)

Score =

**MATHS TEACHER HUB**  
 Foundation Homework 31: Probability


1. In a bag of counters, there are 4 red, 2 blue and 1 green.  
 Write down the probability of selecting:  
 (i) Red  
 (ii) Pink  
 (iii) Not blue. (3 marks)

2. On the probability scale below, mark with an X The probability of selecting a black card from a standard deck of cards. (1 mark)

3. The table below shows the probabilities of choosing a counter from a bag.

Red	Blue	Green	Orange
0.2	0.3	x	0.1


Work out the value of x. (1 mark)

4. There are 30 students in a class.  
 12 of the students were boys  
 5 of the girls wear glasses  
 9 of the boys don't wear glasses.  
 (a) Complete the frequency tree.  (2 marks)

Score =

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 Foundation Homework 31: Probability

5. Below is Venn diagram showing some data.



Write down the probability of selecting:  
 (i) A  
 (ii)  $A \cap B$   
 (iii)  $A'$ . (3 marks)

6. William is going to roll 2 fair six sided dice. He will add the two scores together. He has started to complete the sample space diagram.

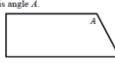
(a) Complete the table.

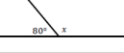
	1	2	3	4	5	6
1						6
2						
3		5				
4						
5					9	
6						

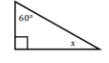
(b) Calculate the probability of scoring a total of 10. (5 marks)

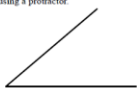
Score =

**MATHS TEACHER HUB**  
 Foundation Homework 41: Angles

1. What type of angle is angle A.  (1 mark)

2. Calculate x.  (1 mark)

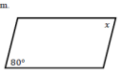
3. Calculate x.  (1 mark)

4. Measure this angle using a protractor.  (1 mark)

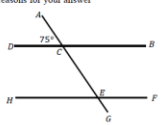
5. Using a protractor, draw a 130 degree angle. (2 marks)

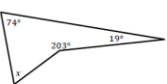
Score =

**MATHS TEACHER HUB**  
 Foundation Homework 41: Angles

6. Here is a parallelogram. Calculate x.  (1 mark)

7. Calculate ECB. You must give reasons for your answer.

 (3 marks)

8. The total interior angles of a quadrilateral is 360 degrees. Calculate x.  (2 marks)

Score =

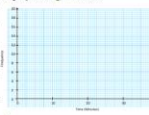
**MATHS TEACHER HUB**  
 Foundation Homework 51: Data

1. Here is a set of data. 5 5 2 5 9 3 6  
 Work out the:  
 (i) Median  
 (ii) Mode  
 (iii) Range  
 (iv) Mean. (5 marks)

2. Here is a list of ages of 20 people in a cinema.  
 16 18 16 23 15 9 17 24 36 20  
 31 10 14 15 11 32 38 13 21 16  
 Use this data to draw a stem and leaf diagram below. (3 marks)

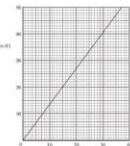
3. The table show the time it took 40 employees to get to work.

Time (Minutes)	Frequency
0 <= 10	5
10 <= 20	12
20 <= 30	20
30 <= 40	3

 Draw a frequency polygon of this data. (2 marks)

Score =

**MATHS TEACHER HUB**  
 Foundation Homework 51: Data

4.  Convert (i) £30 (ii) 20 Euros (iii) £20 (iv) 30 Euros. (4 marks)

5. The table show the time it took 40 employees to get to work.

Time (Minutes)	Frequency
0 <= 10	5
10 <= 20	12
20 <= 30	20
30 <= 40	3

(a) State the modal class interval.  
 (b) Find the group that contains the median.  
 (c) Estimate the mean. (5 marks)

6. Louise is travelling to her grandparents who live 30 miles away. If she is travelling at an average speed of 60 mph, how long will it take her to get there? (2 marks)

Score =

## How to use:

I recommend giving GCSE students 3 sheets at a time to complete as homework.

E.g. Homework number 4, 14 and 24.

You select one to take in and mark, then display the answers for the other two sheets on the board so students can peer mark each others work.