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Mathematics Department Homework Pack

Year 8 Module 5 Higher

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Name

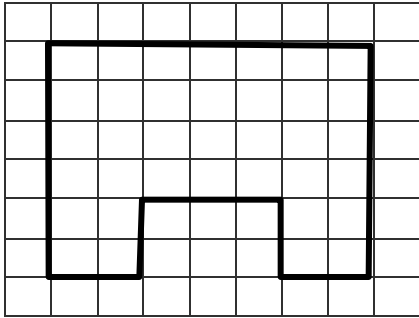
Class Teacher

Name

Area - 1

$\frac{\dots}{30} \times 100 = \dots\%$

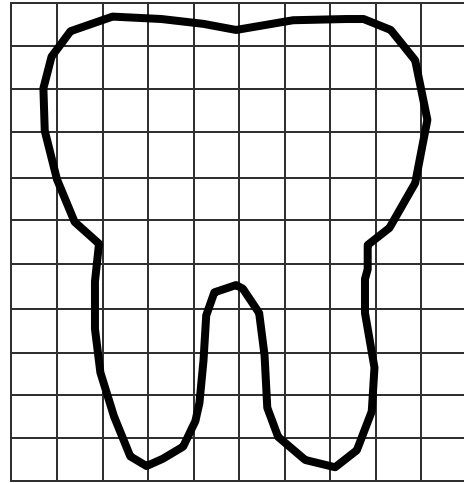
1. Find the **perimeter** and **area**



a. Perimeter..... [2]

b. Area [1]

2. Estimate the **area** of this tooth



Area[2]

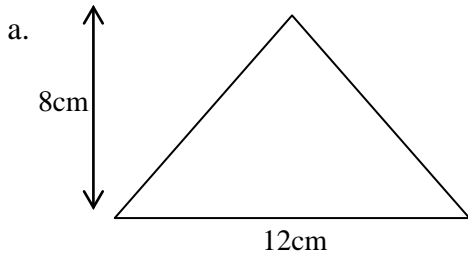
2. Calculate the **area** of these shapes.

Use the correct formula and **units**

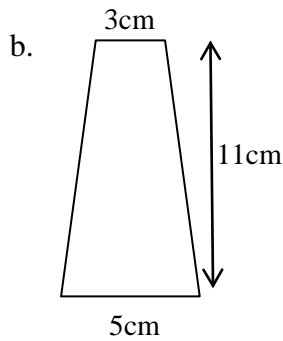
Area of Triangle = $\frac{\text{base} \times \text{height}}{2}$

Area of Parallelogram = base x height

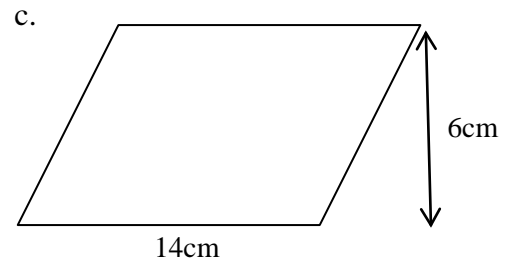
Area of Trapezium = $\frac{(a + b)}{2} \times \text{height}$



Area a.....[2]



Area b.....[2]

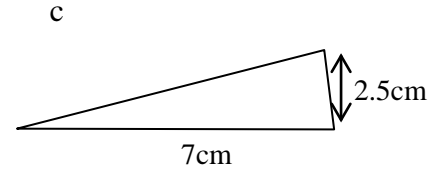
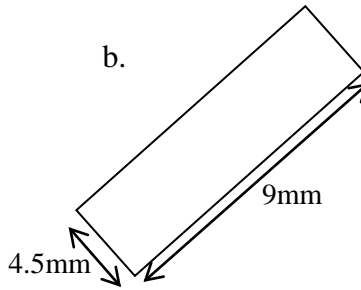
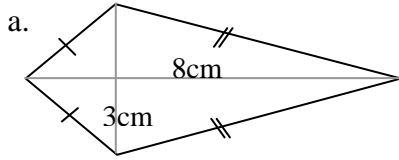


Area c.....[2]

To improve I need to

3. Calculate the **area** of these shapes.

Use the correct formula and **units**

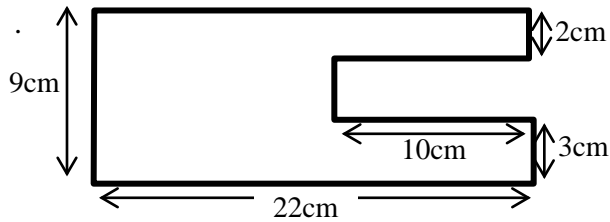


Area a.....[2]

Area b.....[2]

Area c.....[2]

4. Calculate the **perimeter** and **area** of this composite shape, use the correct units



Working out

.....

.....

.....

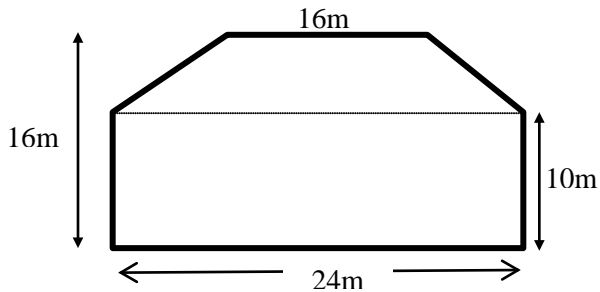
.....

.....

a. Perimeter [3]

b. Area [3]

6. Calculate the **area** of this composite shape



Working out

.....

.....

.....

.....

a. Area [3]

7. The perimeter of a square is 20cm,

What is it's area ? [2]

8. The area of a room is 60m^2 , The length of one side is 12m,

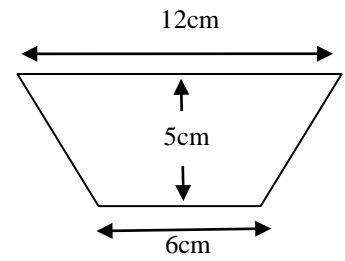
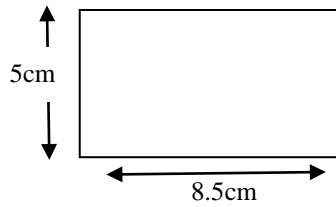
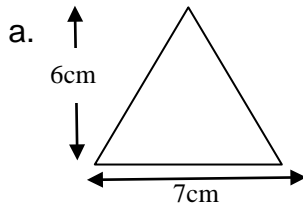
What is the perimeter of the room ?[2]

Name

Area - 2

$\frac{\dots}{20} \times 100 = \dots\%$

1. Find the area of the following shapes



.....

.....

.....

.....[2]

.....[2]

.....[3]

2. The area of Bob's vegetable plot is 12m^2 , it is enlarged by a scale factor of 2, What is the **new** area of Bob's vegetable garden?

.....[2]

3. A car park is 300m^2 , it is reduced by a scale factor of 0.5 What is the **new** area of the car park?

.....[2]

4. A new playroom has an area of 40m^2 . It had been enlarged by a scale factor of 2 What was its **original** area before it was enlarged?

.....

..... [3]

5. A swimming pool has increased in size from 36m^2 to 900m^2 . What was the **scale factor** of enlargement ?

..... [3]

6. The area of a playing field is 490m^2 The length and width of the field is 17.5m by 28m. The original area of the field was 40m^2

a. What was the **scale factor** of enlargement

..... [2]

b. What was the **length** and **width** of the original playing field

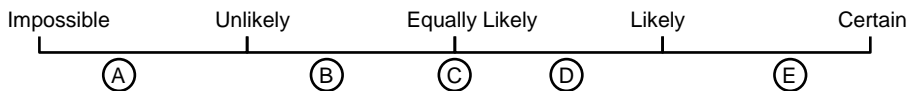
.....[2]

To improve I need to

Name / Enw

Probability

$$\frac{\dots}{20} \times 100 = \dots\%$$



1. From the list below, which events correspond to the above letters. [5]

- a. Getting a 'head' when tossing a coin
- b. Obtaining 2 or more when throwing a dice
- c. Choosing a red card (at random) if you have 10 cards - 4 red and 6 yellow
- d. Choosing a red pencil(at random) if you have 5 pencils - 3 red and 2 yellow.....
- e. Choosing a boy(at random) if 90% of the class are girls

2. Complete the following

- a. Obtaining a '2' when throwing a dice

(write as a fraction)

Probability is



- b. Obtaining a 7 when turning the spinner

(write as a fraction)

Probability is



[4]

3. Using your results for question 2

- a. Marc throws the dice 180 times

How many times would you expect him to get a '2' ?

- b. Jessica spins the spinner 600 times.

How many times would you expect her to get a '7' ?

4. Complete the following table .

Probability of happening	Probability of NOT happening
$\frac{4}{5}$	
$\frac{7}{10}$	
	$\frac{12}{18}$
0.25	
	0.68

[5]

5. Sammy has two dice.

The two dice are thrown and the **difference** between the two values on the dice is calculated

- a. Complete the table
- b. What is the probability of obtaining a score of zero?

Dice 1

6						
5						
4						
3						
2	1	0				
1	0	1	2	3	4	5
	1	2	3	4	5	6

[2]

[2]

Dice 2

To improve I need to

Name

Percentages, Fractions and Money

$\frac{\dots}{25} \times 100 = \dots\%$

1. Find

a. $\frac{1}{5}$ of 45

c. $\frac{7}{8}$ of 48

[7]

b. $\frac{3}{5}$ of 45

d. $\frac{9}{15}$ of 45

2. Find a. 10% of £740

d. 35% of £260

[9]

b. 5% of £64

e. 90% of £85

c. 20% of £270

f. 1% of £160

6. Use a calculator to convert the following marks into percentages

Round the marks to the nearest whole number if necessary

[2]

a. 36 out of 60

b. 23 out of 28

7. William buys a X-box One from Argos for Kate in the sales,

a. How much did William pay?



Harry buys a X-box One off E-bay for Pippa

b. How much did Harry pay

[2]

Argos Xbox £349
SALE 11% off all Electrical goods

[2]

E-bay X- box Special £290*
*** post and packing add 7% to cost**

8. An agricultural college weighed the fruit produced from a certain tree. They did this each year for a period of 3 years. The tree produced 225 kg of fruit in its first year.

Each year following, the weight of the fruit reduced by $\frac{1}{3}$ of that produced in the previous year.

Showing all your calculations, find how many kilograms of fruit the tree produced in the third year.

.....
.....
.....

[3]

To improve I need to

Name

Numeracy - 1

$$\frac{\dots}{25} \times 100 = \dots\%$$

ADDITION

NON CALCULATOR

1.

$$\begin{array}{r} 485 \\ + 258 \\ \hline \\ \hline \end{array}$$

2.

$$\begin{array}{r} 638 \\ + 579 \\ \hline \\ \hline \end{array}$$

3.

$$\begin{array}{r} 878 \\ + 696 \\ \hline \\ \hline \end{array}$$

4.

$$\begin{array}{r} 2905 \\ + 5826 \\ \hline \\ \hline \end{array}$$

5.

$$\begin{array}{r} 7698 \\ + 8364 \\ \hline \\ \hline \end{array}$$

6.

$$\begin{array}{r} 3137 \\ 5774 \\ + 8053 \\ \hline \\ \hline \end{array}$$

SUBTRACTION

NON CALCULATOR

7.

$$\begin{array}{r} 643 \\ - 62 \\ \hline \\ \hline \end{array}$$

8.

$$\begin{array}{r} 344 \\ - 86 \\ \hline \\ \hline \end{array}$$

9.

$$\begin{array}{r} 700 \\ - 57 \\ \hline \\ \hline \end{array}$$

10.

$$\begin{array}{r} 703 \\ - 456 \\ \hline \\ \hline \end{array}$$

11.

$$\begin{array}{r} 507 \\ - 378 \\ \hline \\ \hline \end{array}$$

12.

$$\begin{array}{r} 7030 \\ - 4268 \\ \hline \\ \hline \end{array}$$

2 marks each plus 1 mark for effort

To improve I need to

Name

Numeracy - 2

.....%

NON CALCULATOR Complete the multiplication grid

X	3	15	4	5	8	7	9	11	6	12
4										
15										
8										
3										
6										
7										
12										
11										
9										
5										

Name

Numeracy - 3

$$\frac{\dots}{30} \times 100 = \dots\%$$

1. Write 240 as a product of it's Prime factors in index form [3]

Answer

2. Write 1260 as a product of it's Prime factors in index form [3]

Answer

3. A school has 546 pupils, the caretakers set out the hall for an assembly, each row has 26 chairs. How many rows need to be set out, show all your working out [3]

Answer

4. Mr Williams organises the school trip to Alton towers. The entrance fee is £18 and the cost for the bus is £3. If 145 pupils pay to go, how much money does Mr Williams collect. Show all your working out [3]

Answer

5. Ms Dennis needs to make 4 teams for the school Sports Day. There are 297 pupils in years 7 and 8, how many pupils will she put in each team? [3]

Answer

6. Mr Simpson needs to buy 65 new calculators. A calculator costs £2.79 each Find the total cost. [3]

Answer

7. Write down all the square numbers between 100 and 200 [2]

Answers

8. $\sqrt{81} \times \sqrt{64}$ Answer [2]

9. $2^3 \times 5^3$ Answer [2]

10. Write all the multiples of 17 between 60 and 100

Answer [2]

11. The sum of two numbers is 17 and their product is 60 what the two numbers?

















Answer [2]

12. The difference between two numbers is 9 and their product is 90 what the two numbers?

Answer [2]

To improve I need to

Challenge

				28
				30
				18
				20
?	30	23	22	

Each symbol has a numerical value.

The total for the symbols is written at the end of each row and column.

Can you find the missing total that should go where the question mark has been put