FORT PITT GRAMMAR SCHOOL

4th July 2024

Dear Parent / Carer,

In order to give every student the opportunity to prepare for Maths at Fort Pitt, I have included a few optional activities that students may want to complete during the summer break. This includes a list of Year 7 Expected Prior Knowledge, some practice questions for the Year 7 baseline assessment and the answers to these questions so that you can feedback at home.

I would also like to take this opportunity to suggest the scientific calculator we think is best suited to your child as a year 7 student. We would like all students to have a scientific calculator at the start of year 7, and they will be needed in both Science and Maths lessons. I would highly recommend the CASIO fx83gt CW calculator, for its functions which are highly desirable for GCSE examinations. This particular model is fully endorsed by the Edexcel examination board.

Please see the links below for further information:
Casio FX-83GT CW Black ClassWiz Scientific Calculator– Science Studio
Casio FX-83GT CW Grey ClassWiz Scientific Calculator– Science Studio
Casio FX-83GT CW Blue ClassWiz Scientific Calculator– Science Studio
Casio FX-83GT CW Pink ClassWiz Scientific Calculator– Science Studio

Any of the colour options available is fine. Science Studio also offer an engraving option, for an extra £1.20 – which we would recommend. Alternative methods can be used, but please do ensure your child's calculator is labelled. You may wish to purchase the solar powered version for a slight price increase. Casio FX-85GT CW ClassWiz Solar Scientific Calculator– Science Studio

You may be able to source this specific calculator cheaper elsewhere, which is perfectly acceptable.
If you wish to spend a little more money, on the same weblink is the FX991CW classwiz. This has some extra functionality that you may wish your child to have but is not essential. Link below:
Casio FX-991CW ClassWiz Advanced Scientific Calculator– Science Studio

All these calculators may be sourced from different suppliers at a lower price, but generally this site is good value. Engraving may not be available elsewhere. If your child already has a similar CASIO scientific calculator, there is no need to purchase another one, but it would be a good idea to check with the class teacher if in any doubt. Please do not hesitate to get in touch should you need any further assistance.

Yours faithfully

Dr S Facey
Head of Mathematics

FORT PITT GRAMMAR SCHOOL

Year 7 - Expected Prior Knowledge				R	A	G
P	1a	Place Value	Can read, write and order whole numbers up to 10 000 000 and use the symbols =, <, >, ≤, ≥			
P	1b		Can read, write and order numbers up to 3 decimal places			
P	1c		Can round any whole number to the nearest 10, 100, 1000 etc			
P	1d		Can round decimals to the nearest whole number and to one or two decimal places			
P	1e		Can use place value to multiply whole numbers by 10, 100 or 1000			
P	1f		Can use place value to multiply decimal numbers by 10, 100 or 1000			
P	1g		Can use place value to divide whole numbers by 10, 100 or 1000			
P	1h		Can use place value to divide decimal numbers by 10, 100 or 1000			
P	1i		Can use negative numbers in context and calculate intervals across zero			
P	2a	Addition and Subtraction	Can recall and use complements 1-20 and 100			
P	2b		Can use mental methods of computation for addition			
P	2c		Can use mental methods of computation for subtraction			
P	2d		Can use efficient written methods of addition including column addition			
P	2e		Can use efficient written methods of subtraction including column subtraction			
P	2f		Can add with decimals to two places (including money)			
P	2g		Can subtract with decimals to two places (including money)			
P	3a	Multiplication and Division	Can recall multiplication facts up to 12x12 and quickly derive corresponding division facts			
P	3b		Can use tables and place value calculations with multiples of 10			
P	3c		Can use mental methods of computation for multiplication			
P	3d		Can use mental methods of computation for division			
P	3e		Can use efficient written methods of multiplication including short and long multiplication			
P	3f		Can use efficient written methods of division including short and long division			
P	3g		Can multiply a simple decimal by a single digit			
P	3h		Can identify multiples and common multiples			
P	3i		Can identify factors and common factors			
P	3j		Can recognise and describe square numbers			
P	3k		Can recognise and identify prime numbers			
P	4a	Solving Numerical Problems	Can solve problems choosing an appropriate mental or written strategy (all four operations)			
P	4b		Can solve two step problems choosing appropriate operations (all four operations)			
P	4c		Can interpret calculator display within context (all four operations)			
P	4d		Can use inverse operations to find missing numbers, including decimals			
P	4e		Can 'undo' a two step problem			

P	4f		Can understand balancing including the meaning of the 'equals' sign			
P	4g		Can understand the use of brackets and the order of operations			
P	5a	Fractions Decimals and Percentages	Can use and understand fraction notation in representing parts of a whole and recognise equivalent fractions			
P	5b		Can use common factors to simplify fractions			
P	5c		Can compare and order fractions			
P	5d		Can add and subtract fractions			
P	5e		Can multiply fractions by whole numbers			
P	5f		Can multiply pairs of fractions, writing the answer in its simplest form			
P	5g		Can divide fractions by whole numbers			
P	5h		Can divide a fraction by a fraction			
P	5i		Can convert mixed numbers to improper fractions			
P	5j		Can convert improper fractions to mixed numbers			
P	5k		Can read and write decimal numbers as fractions			
P	5l		Can recognise approximate proportions of a whole number using percentages			
P	5m		Can recognise equivalence between fractions, decimals and percentages			
P	6a	Ratio and Proportion	Can understand, use and apply simple ratio to a real problem			
P	6b		Can use and apply scale in real contexts			
P	6c		Can understand and use the concept of proportion			
P	6d		Can share a quantity in a given ratio			
P	7a	Measurement	Can use, read, write and convert between standard units of length, mass, volume etc (eg mm,cm,m,km mg,g,kg)			
P	7b		Can find the area of a triangle			
P	7c		Can find the area of rectangles, squares and parallelograms			
P	7d		Can find the volume of cubes and cuboids			
P	8a	Properties of Shape	Can draw 2D shapes using given dimensions and angles			
P	8b		Can recognise, describe and build simple 3D - shapes, including making nets			
P	8c		Can find unknown angles in triangles and quadrilaterals			
P	8d		Can recognise angles where they meet at a point or are on a straight line.			
P	8e		Can describe positions on the full coordinate grid (all four quadrants)			
P	8f		Can draw and translate simple shapes on the co-ordinate plane and reflect them in the axes.			
P	9a	Statistics	Can interpret and construct pie charts, line graphs and pictograms			
P	9b		Can calculate and interpret the mean as an average			
P	9c		Can find the range of a set of data.			

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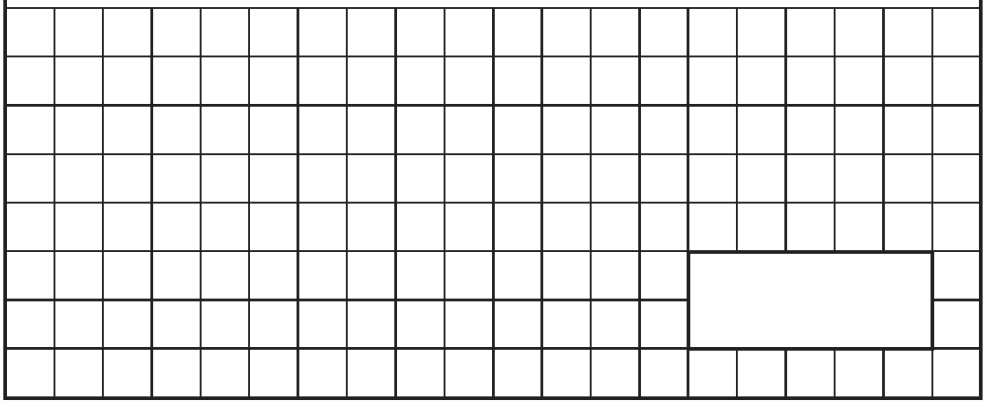
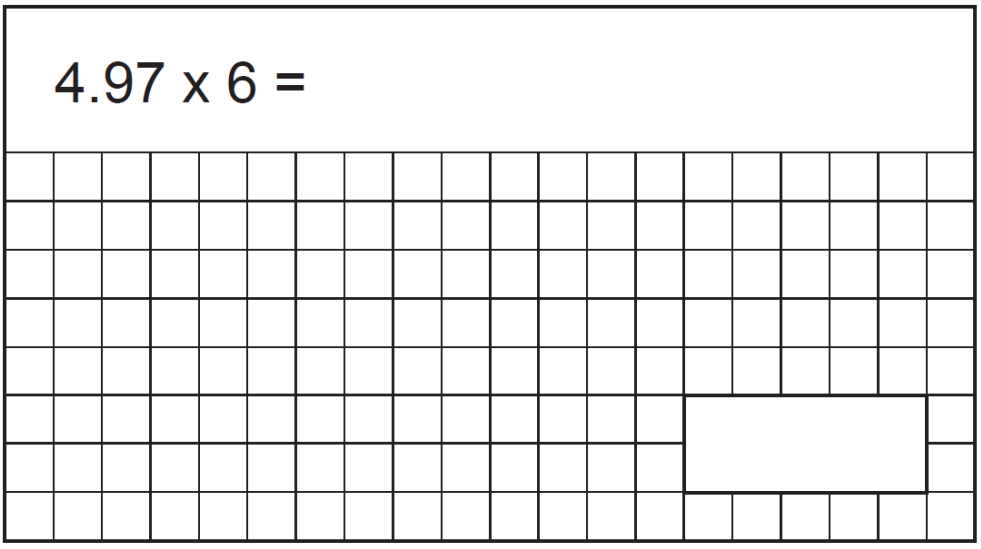
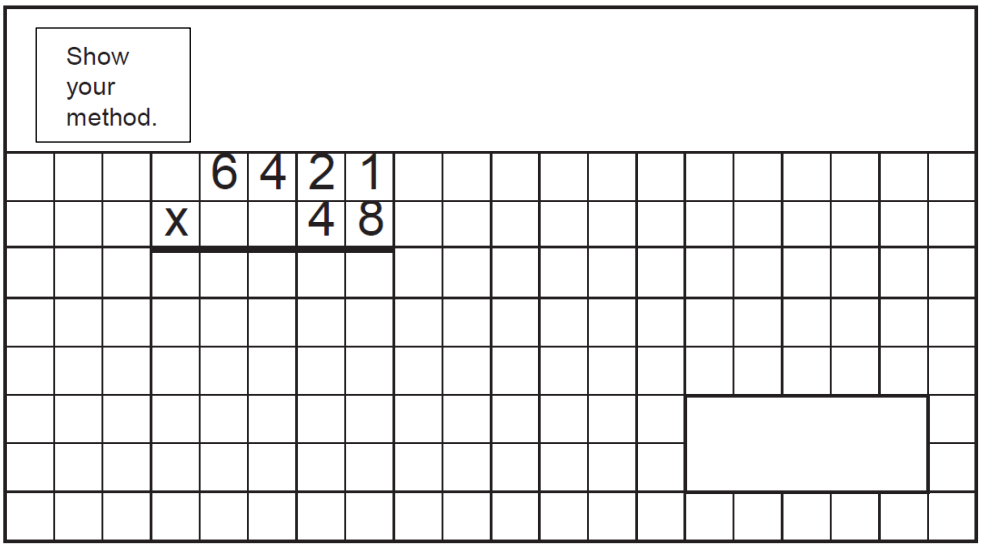
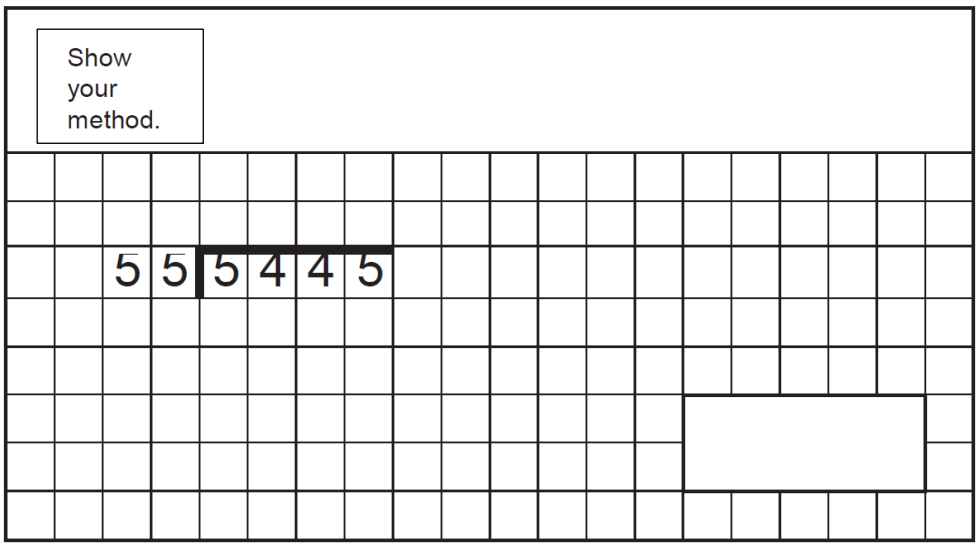
Please Name:

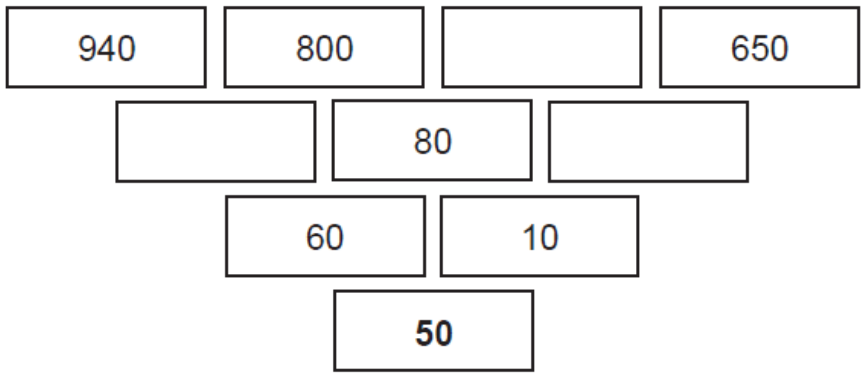
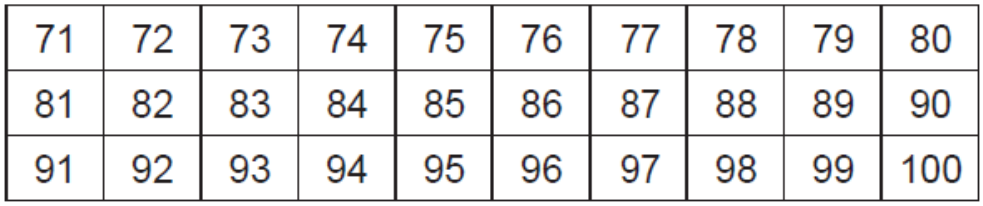
Answer all the Questions in the Space Provided. Remember to show all of your working

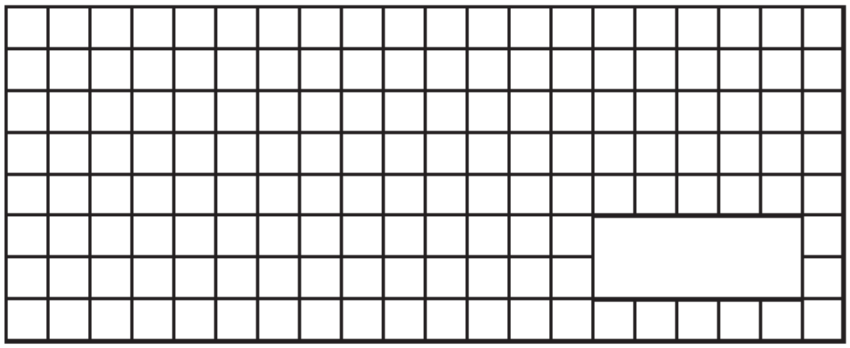
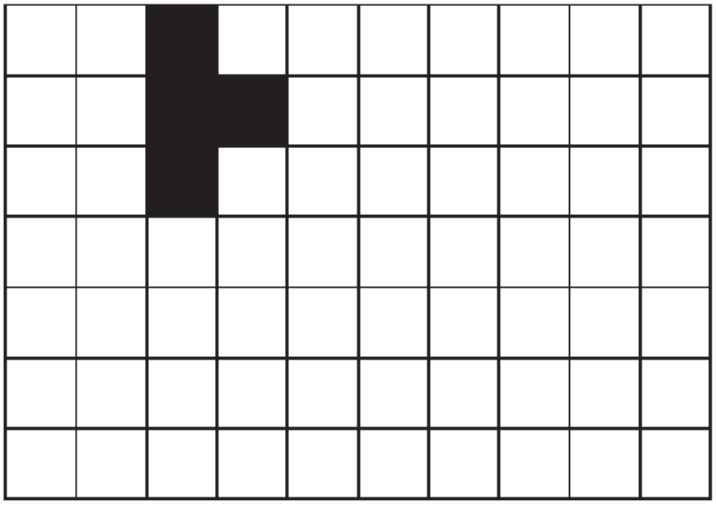
1	$\frac{5}{8} + \frac{8}{8} =$	1
2	$92 \times 8 =$	1

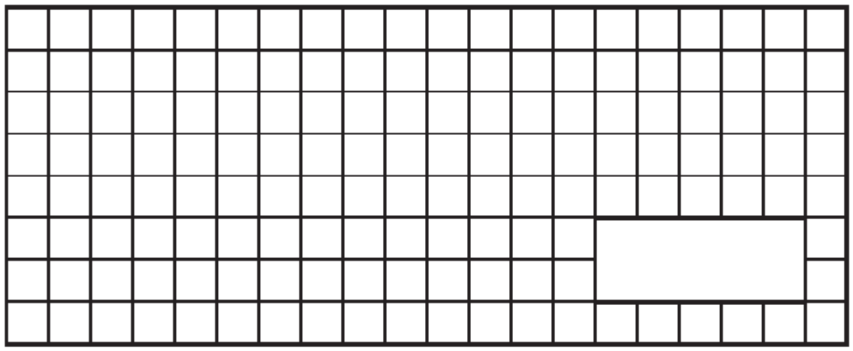
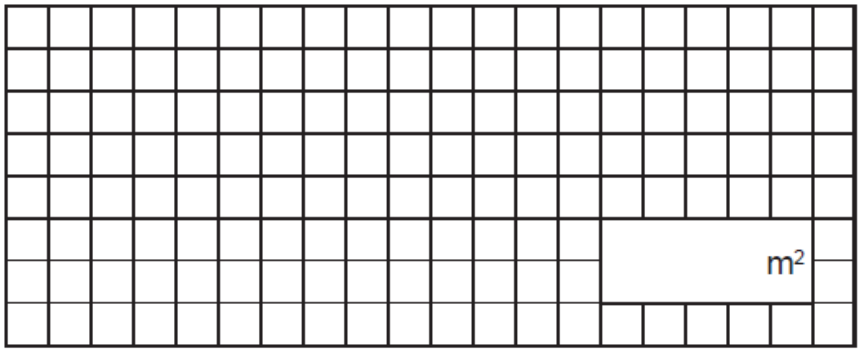
3	$\frac{5}{8} - \frac{1}{5} =$ 	1
4	$4.97 \times 6 =$ 	1

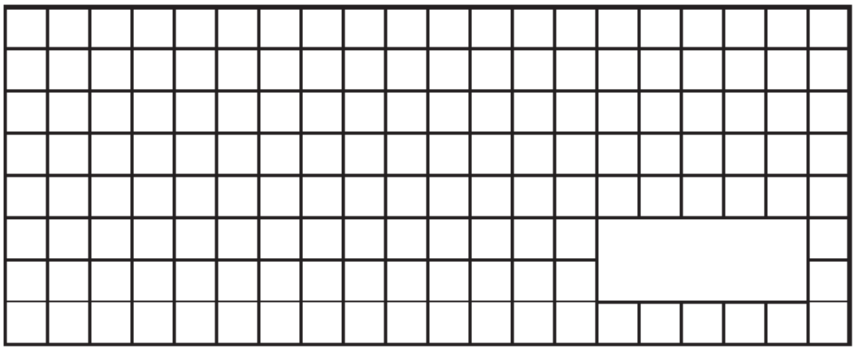
5	59,123 – 8,354 =	1
6	8,756 ÷ 4 =	1

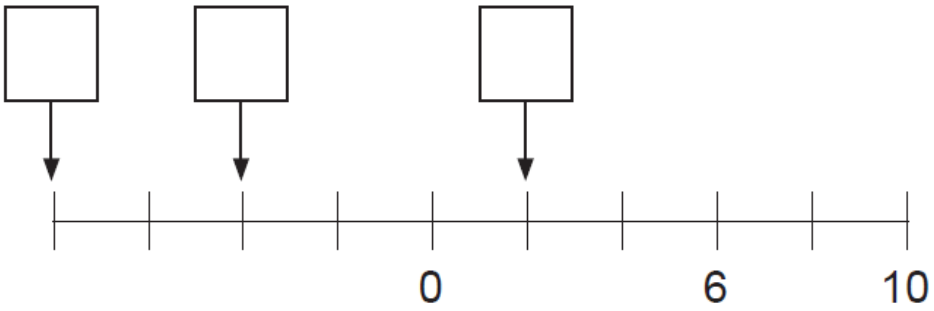
7	Show your method.  	2
8	Show your method.  	2

9	Fill in each missing number by subtracting the right-hand number above each block from the left-hand number above the same block. For example, at the bottom of the pyramid, the missing number is 50 because 60 – 10 = 50.  	2
10	Write the number 807 in words.	1
11	 Circle the smallest number on the chart that is a common multiple of both 2 and 7.	1

12	A band has planned 9 performances for the upcoming tour. Each performance has 647 tickets available. The cost of each ticket is £18. If they change all of the tickets at full price, how much money will the band receive? Show your working. 	2
13	Translate the shape 4 squares right and 2 squares down. 	1

14	Amy is making knitted Easter chicks. For each chick, she uses 0.35m of yellow wool. How many knitted Easter chicks can she make using a 4m ball of wool? Show your working. 	2
15	The area of a hockey pitch is 5,027 square metres. A football pitch measures 115 metres long and 89 metres wide. How much larger is the area of the football pitch than the area of the hockey pitch? Show your working. 	2

16	A football ground can hold 15,000 spectators. $\frac{1}{4}$ of the tickets are sold to home supporters. $\frac{1}{3}$ of the tickets are sold to away supporters. The rest of the seats are empty. How many seats are empty? Show your working. 	3
17	Fill in the missing digits to make this fraction number sentence correct. $\frac{\square}{6} + \frac{2}{\square} = \frac{10}{\square}$	2

18	Jen says the value of a 50p coin is greater than a £2 coin because 50 is greater than 2.  Do you agree? Circle Yes / No Explain your answer.	1
19	Fill in the missing numbers.  	1

20	Tick (4) the statements that are true and cross (7) the statements that are false. An equilateral triangle has three equal angles. ☐ An isosceles triangle has three different sized angles. ☐ Angles in a scalene triangle add up to 180°. ☐ Angles in a right-angled triangle are 90° each. ☐	1
21	It is Pancake Day so the shop has ordered 3,278 eggs. The eggs are packed in boxes of 6. How many egg boxes will be completely filled? Show your working.	2

22 Here is a sorting diagram. Write a number between 100 and 200 in each space.

	even	**not** even
a square number		
not a square number		

2

23 Use each of these digit cards **once** to complete the calculation below correctly.

3 8 2 4

$1\frac{\square}{\square} + \frac{\square}{\square} = 2$

1

24 Find the mean of this set of data.

10 15.5 8 6.5 5

1

25 B stands for a **multiple of 3**. C stands for a different **multiple of 3**. Tick (4) each statement according to whether it is **always true**, **sometimes true** or **never true**.

	Always true	Sometimes true	Never true
The sum of B and C is a multiple of 6			
The difference between B and C is a multiple of 3			

1

26 In a pattern, the ratio of black tiles to white tiles is 3:5

In total we have 400 tiles.

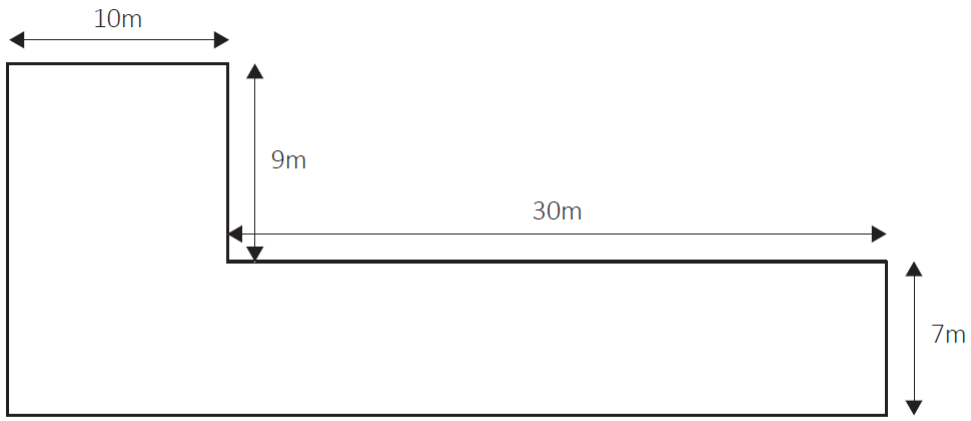
How many black tiles and how many white tiles do we have?

black tiles

white tiles

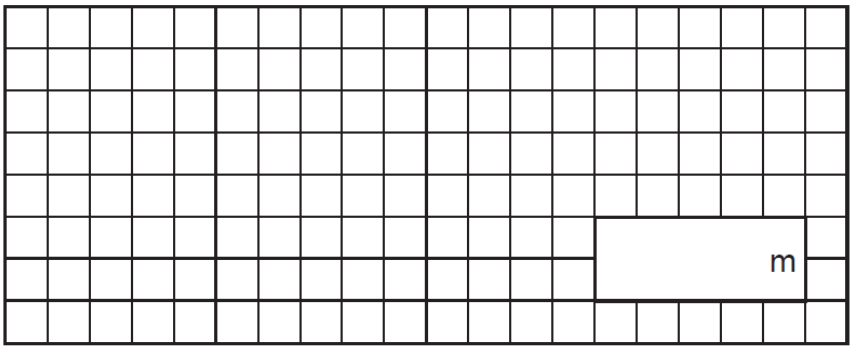
1

27 Below is a drawing of Sita's allotment.



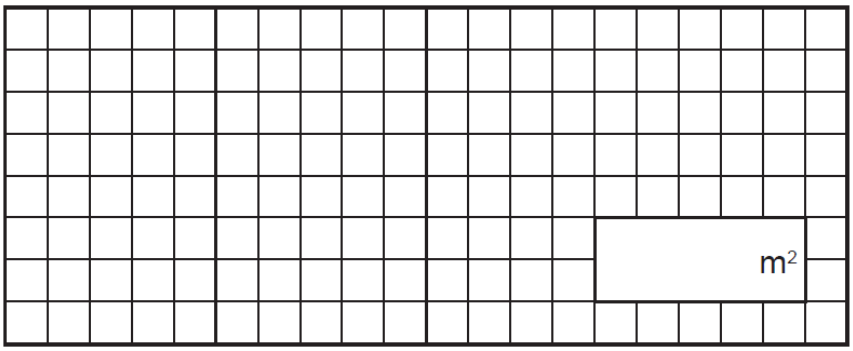
a) Calculate the perimeter of the allotment.

Show your working.



b) Calculate the area of the allotment.

Show your working.



1, 2

Review:

You may now choose to RAG assess the following skills (Red – Not Confident, Amber – partly confident, Green – Very confident) and then comment on your attainment in the box below:

Qu	Skill	Ref	R	A	G
1	Can add and subtract fractions	P5d			
2	Can use efficient written methods of multiplication including short and long multiplication	P3e			
3	Can add and subtract fractions	P5d			
4	Can multiply a simple decimal by a single digit	P3g			
5	Can use efficient written methods of subtraction including column subtraction	P2e			
6	Can use efficient written methods of division including short and long division	P3f			
7	Can use efficient written methods of multiplication including short and long multiplication	P3e			
8	Can use efficient written methods of division including short and long division	P3f			
9	Can use efficient written methods of subtraction including column subtraction/ Can use inverse operations to find missing numbers, including decimals	P2e/4d			
10	Can read, write and order whole numbers up to 10 000 000 and use the symbols =, <, >, ≤, ≥	P1a			
11	Can identify multiples and common multiples	P3h			
12	Can use efficient written methods of multiplication including short and long multiplication	P3e/4a			
13	Can draw and translate simple shapes on the co-ordinate plane and reflect them in the axes.	P8f			

14	Can solve problems choosing an appropriate mental or written strategy (all four operations)	P4a			
15	Can find the area of rectangles, squares and parallelograms	P7c			
16	Can multiply fractions by whole numbers	P5e			
17	Can use and understand fraction notation in representing parts of a whole and recognise equivalent fractions/ Can add and subtract fractions	P5a/5d			
18	Understand money	x			
19	Can use negative numbers in context and calculate intervals across zero	P1i			
20	Can find unknown angles in triangles and quadrilaterals	P8c			
21	Can use efficient written methods of division including short and long division	P3f			
22	Can recognise and describe square numbers/ Can identify multiples and common multiples	P3j/3h			
23	Can use and understand fraction notation in representing parts of a whole and recognise equivalent fractions/ Can add and subtract fractions	P5a/5d			
24	Can calculate and interpret the mean as an average	P9b			
25	Can identify multiples and common multiples	P3h			
26	Can share a quantity in a given ratio	P6d			
27	Can find the area of rectangles, squares and parallelograms	P7c			

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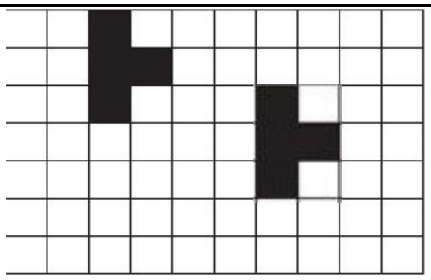
Solutions to Baseline Practise questions

1	13/8			
2	736			
3				
4	29.82			
5	50769			
6	2189			
7	308208			
8	99			
9	720, 140, 70	140	70	
10	Eight hundred and seven			
11	84			
12	104814			
13				
14	11			
15	5208			
16	6250			
17	8	6	6	
18	no	50p, 200p		
19	-8	-4	2	
20		x		x
21	546			
22	144	121		
	102	101		
24	9			
25	Always True	Always True		
26	150 Black	250 White		
27	perimeter = 112m	area = 370m^2		