

7H Half Term Assessment 1

The assessment will last a total of **40 minutes**.

You will be given 10 minutes to work on Section A ONLY using a calculator.

You will then have 30 minutes in which to complete the rest of the paper. During this time you must NOT use a calculator but you may work on both Sections A and B.

Section A: You may use a calculator for these questions.

1 Work out each of the following

(a) $16.3 - 1.2^2$

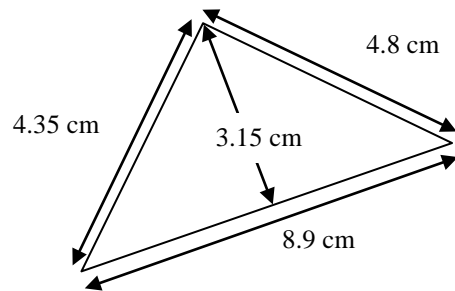
(b) $\frac{80.66}{3.2+1.5^2}$

(c) $4.9 - \frac{2.3}{1.6}$

(d) $\frac{12.6}{3.2+1.6}$

(4 marks)

2 a) What is the area of the triangle to the right?



(1 mark)

b) What is its perimeter?

(1 mark)

3 The numbers in each sequence go up in equal steps. Find the missing numbers.

a) 170, , , 260

b) , 20, 50,

c) -11, , 10,

(3 marks)

4 Two consecutive numbers have a product of 702. What are they?(Consecutive numbers are numbers that follow on from each other e.g. 3 and 4, 78 and 79).

.....
(1 mark)

Section B: You must not use a calculator for these questions.

5 Here are four number cards



Use the four number cards to make the answer to the calculation as **large** as possible.

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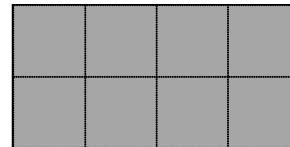
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(1 mark)

6 The grids in this question are centimetre square grids.

(a) What is the area of this shaded rectangle?

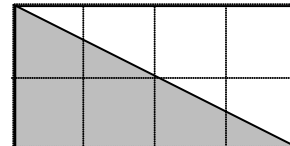
.....



Not to scale

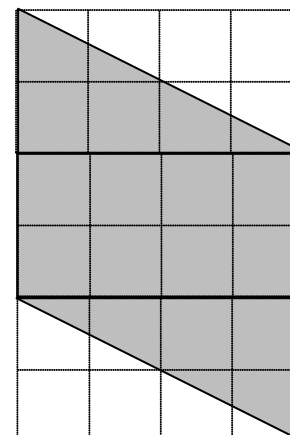
(b) What is the area of this shaded triangle?

.....



(c) What is the area of this shaded shape?

.....



(3 marks)

7 (a) $19 + 32 \div 4 =$

.....
(1 mark)

(b) $4 \times (7 - 4)^2 =$

.....
(1 mark)

8 Work out each of the following.

(a) $518 - 259$

(2 marks)

(b) $34.8 + 17.54$

(2 marks)

(c) 59×47

(2 marks)

(d) $1272 \div 24$

(2 marks)

(e) $19.47 \div 6$

(2 marks)

9. Arrange the numbers in order of size, smallest first.

(a) 1.3 0.13 0.31 1.13

.....
(1 mark)

(b) 250m 2.5km $\frac{3}{4}$ km

.....
(1 mark)

10. You are given that $29 \times 31 = 899$

a) What is the remainder when 900 is divided by 29?

.....
(1 mark)

b) What is the remainder when 897 is divided by 31?

.....
(1 mark)

11. The sequences in this question go up in *equal* steps.

(a) The 2nd term is 7. The 3rd term is 13. What is the 5th term?

.....

(1 mark)

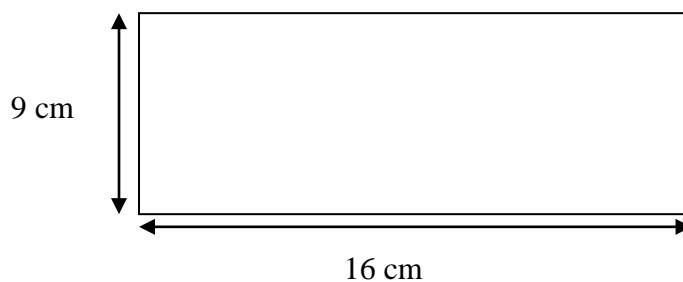
(b) The 2nd term is 1. The 5th term is 10. What is the first term?

.....

(2 marks)

12. The area of a square is equal to the area of the rectangle below.

(a) What is the length of one side of the square?

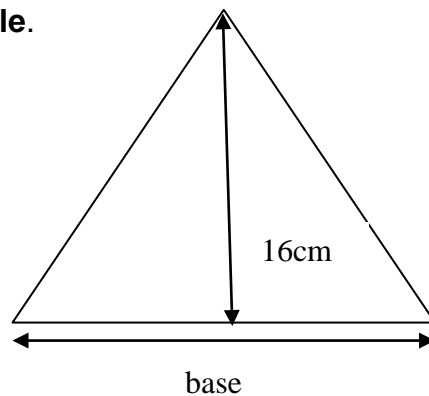


.....

(3 marks)

The triangle, to the right, also has the **same area as the rectangle**.

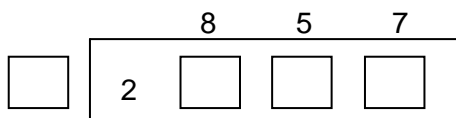
(b) How long is the base of the triangle?



.....

(2 marks)

13. Find the missing numbers in this calculation.



(2 marks)

Total marks 40

7H Half Term Assessment 2

The assessment will last a total of **40 minutes**.

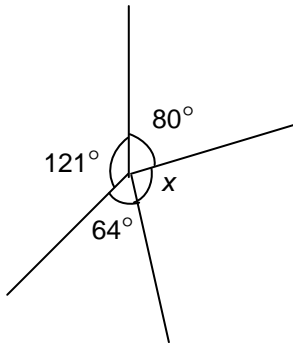
You will be given 10 minutes to work on Section A ONLY using a calculator.

You will then have 30 minutes in which to complete the rest of the paper. During this time you must NOT use a calculator but you may work on both Sections A and B.

Section A: You may use a calculator for these questions.

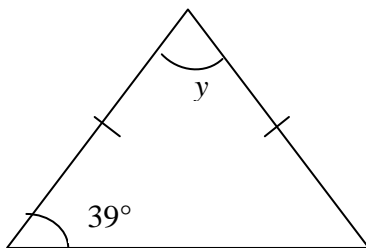
1 Work out the size of angles x, y and z . The diagrams are not drawn to scale.

(a)



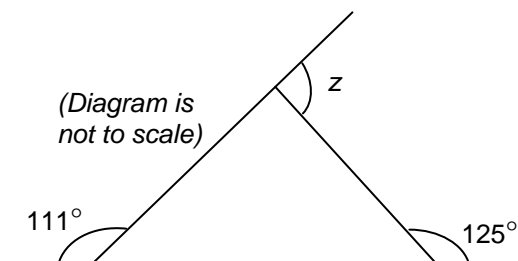
.....
(1 mark)

(b)



.....
(2 marks)

(c)



.....
(3 marks)

2 Most teachers at Emmanuel College travel to work by car. The number of teachers that arrive in each car is shown in the table below.

Number of teachers in a car	Number of cars	
1	14	
2	4	
3	2	
Total		

(a) Find the mean number of teachers in a car.

.....
(3 marks)

(b) Sarah says that the modal number of teachers in a car is 14. Explain why she is wrong.

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

(1 mark)

Section B: You must not use a calculator for these questions.

3 (a) Write a fraction that is less than 1 but greater than $\frac{1}{2}$.

.....
(1 mark)

(b) Simplify these fractions as far as possible

i) $\frac{10}{15}$

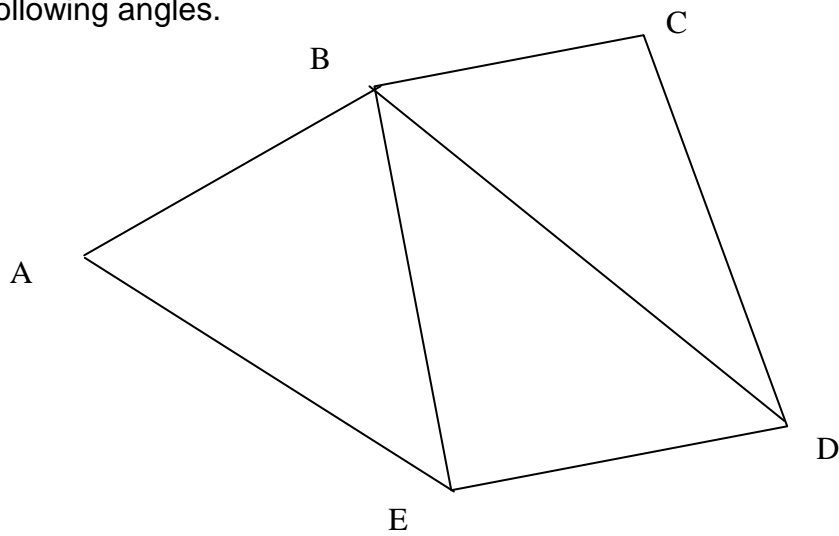
ii) $\frac{35}{42}$

(2 marks)

4 (a) Use a protractor to draw an angle of 128° . Label it clearly.

(2 marks)

(b) Measure the following angles.



i) $\hat{A}BE$

.....

(1 mark)

ii) $\hat{B}CD$

.....

(1 mark)

5 (a) Work out $\frac{3}{5}$ of £20

.....

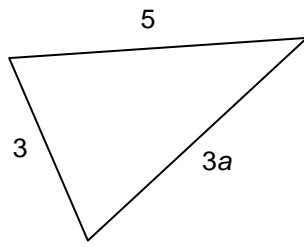
(1 mark)

(b) Work out $\frac{3}{4}$ of £36

.....

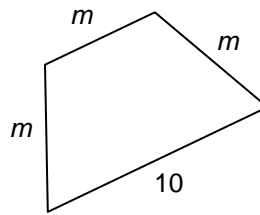
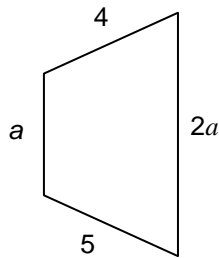
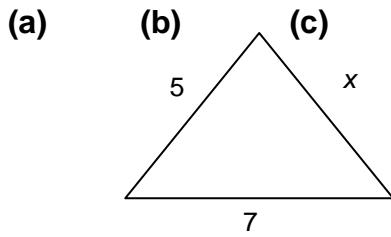
(1 mark)

6 An expression for the **perimeter** of this shape is perimeter = $3a + 8$



Write an expression for the perimeter of the shapes below.

Write the answer in its simplest form.



.....

.....

.....

(3 marks)

7 (a) Convert these fractions into decimals.

i) $\frac{7}{20}$

.....
(1 mark)

ii) $\frac{140}{200}$

.....
(1 mark)

(b) Convert these decimals to percentages.

i) 0.6

.....
(1 mark)

ii) 0.02

.....
(1 mark)

8 The school council meets three times each term.
These are the times, in minutes, that the meetings lasted in 2010.

48, 54, 28, 32, 42, 51, 26, 34, 36

(a) Find the median of these times.

.....
(1 mark)

(b) Find the range of these times.

.....
(2 marks)

(c) For the school council in 2008,
the median was 30 minutes,
the range was 21 minutes.

Make **one** comparison between the lengths of times of the meetings in 2008 and 2009.

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

(1 mark)

9 (a) Work out $\frac{3}{4} + \frac{1}{8}$.

.....
(2 marks)

(b) Work out $\frac{1}{2} + \frac{2}{5}$.

.....
(2 marks)

(c) Work out $\frac{7}{8} - \frac{2}{3}$.

.....
(2 marks)

10 (a) Let $C = 4x + 13$. Find the value of C when $x = 6$.

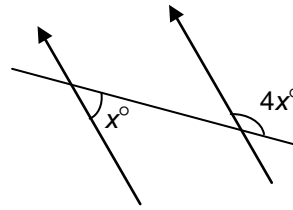
.....
(1 mark)

(b) Let $p = \frac{r}{6} - 3$. Find the value of p when $r = 30$.

.....
(1 mark)

11 In this diagram the two parallel lines are marked with arrows.

Find the value of x .



.....

(2 marks)

Total 40

7H Half Term Assessment 3

The assessment will last a total of **40 minutes**.

You will be given 10 minutes to work on Section A ONLY using a calculator.

You will then have 30 minutes in which to complete the rest of the paper. During this time you must NOT use a calculator but you may work on both Sections A and B.

Section A: You may use a calculator for these questions.

1 There are 15 players in a rugby team and there are 207 boys in year 7 of a school.

(a) How many teams of 15 can be formed?

.....
(2 marks)

(b) How many boys will be left over?

.....
(1 mark)

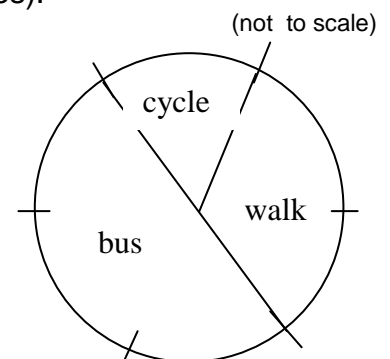
2 The average daily sleep time for a domestic cat is 11.5 hours.

What is this in minutes?

.....
(2 marks)

3 Lorna did a survey on how pupils get to school. The pie chart shows her results. (It can be assumed that the marks on the edge split the circle into even pieces).

(a) What fraction of the pupils walk to school? Give your answer in its simplest terms.



.....
(1 mark)

(b) 420 pupils take the bus to school. How many pupils walk?

.....
(2 marks)

4 (a) Find three numbers that are multiples of 3 and 7.

.....
(1 mark)

(b) Find a pair of square numbers with a difference of 115.

.....
(1 mark)

Section B: You must not use a calculator for these questions.

5 (a) Write down all the factors of 20.

.....
(2 marks)

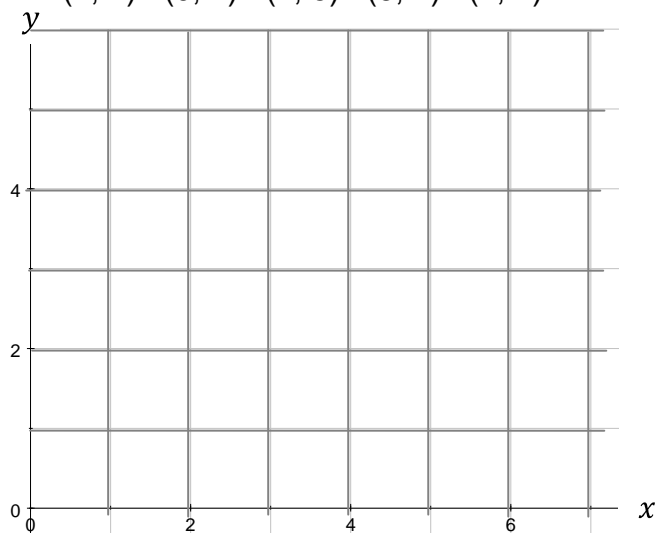
(b) Is 21 a prime number? Give a reason for your answer.

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

(1 mark)

6 (a) Plot these points. Join them up in order as you go.

(2, 1) (0, 4) (4, 5) (6, 2) (2, 1)



(2 marks)

(b) Write down the name of the shape.

.....
(1 mark)

7 Work out each of the following:

(a) $9.3 - 5.67$ (2 marks)

(b) $6.7 \div 4$ (2 marks)

8 One letter is chosen at random from the word ISOSCELES.

Find the probability of choosing

(a) an S

.....
(1 mark)

(b) a vowel

.....
(1 mark)

9 For the line $y = 2x + 1$, find the y values for:

(a) $x = 4$

.....
(1 mark)

(b) $x = 12$

.....
(1 mark)

10 Here are the heights of 40 sunflower plants grown by pupils in year 7.

56 14 61 67 90 38 47 67 72 75
 80 41 21 54 92 44 68 85 43 71
 69 19 39 64 83 80 65 42 20 35
 27 81 70 75 59 36 71 88 50 79

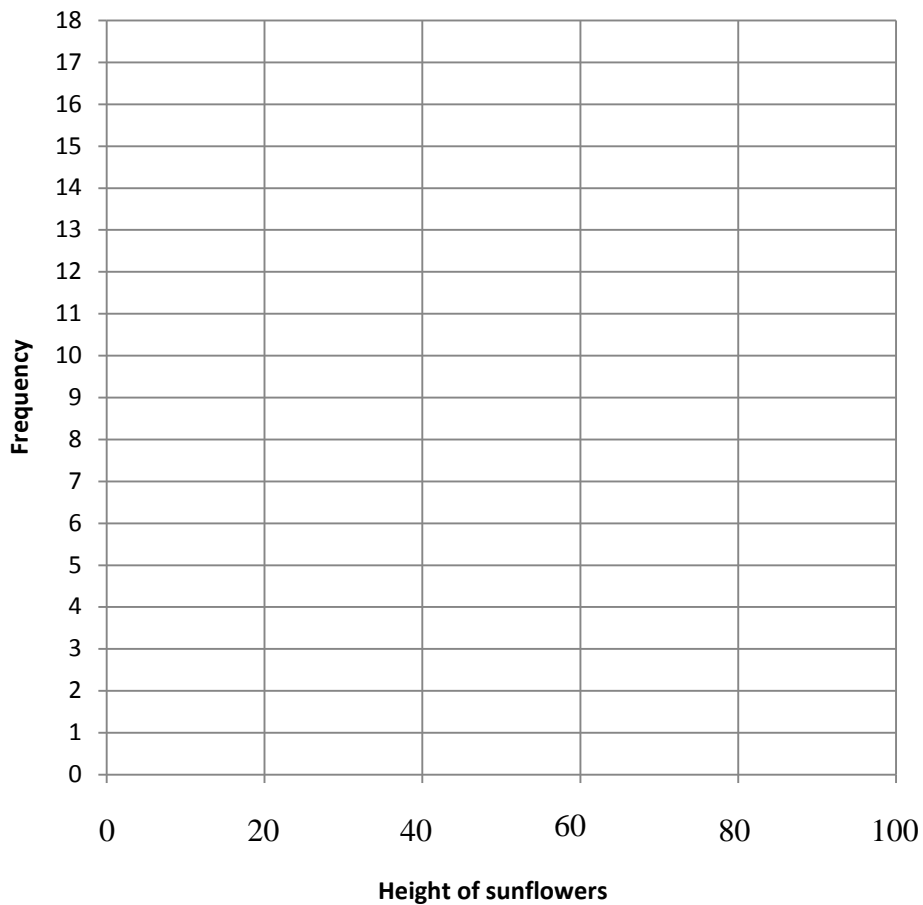
(a) Complete the table below.

Height (cm)	Tally	Frequency
$0 \leq h < 20$		
$20 \leq h < 40$		
$40 \leq h < 60$		
$60 \leq h < 80$		
$80 \leq h < 100$		
Total		

(3 marks)

(b) Draw a frequency diagram to illustrate the results.

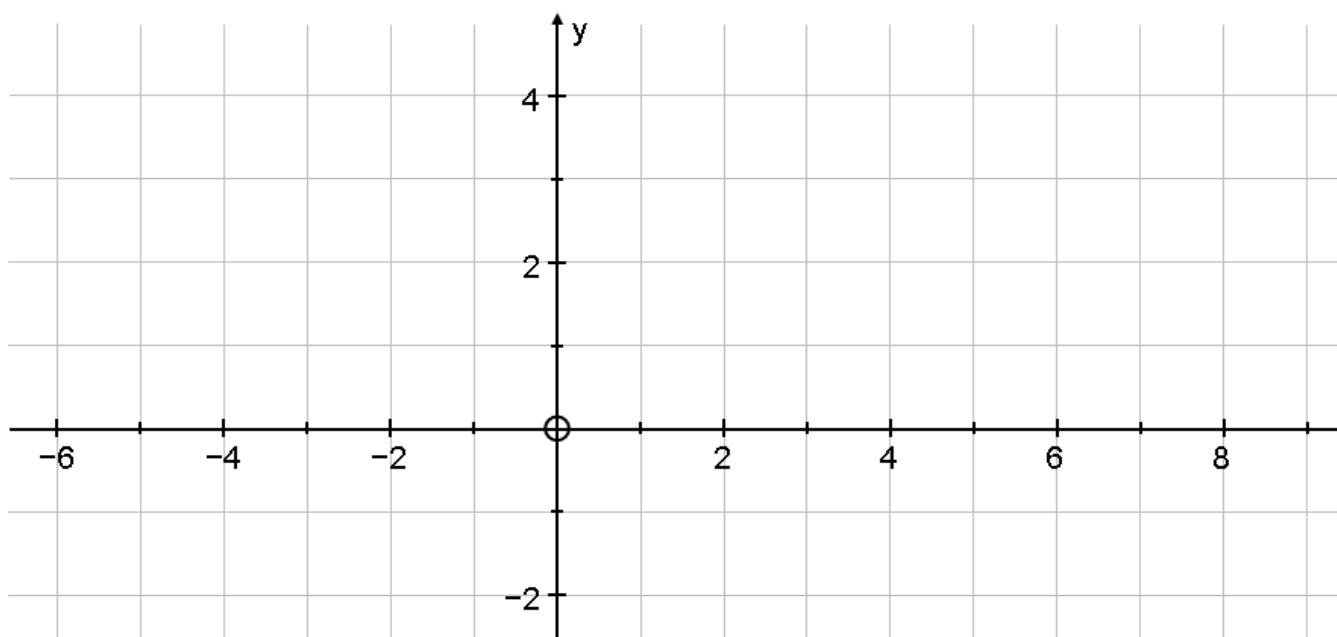
Height of sunflowers



(2 marks)



11(a) Draw the lines $y = 3$ and $x = -2$ on the grid below. Label them clearly.



(b) At what point do the two lines meet?

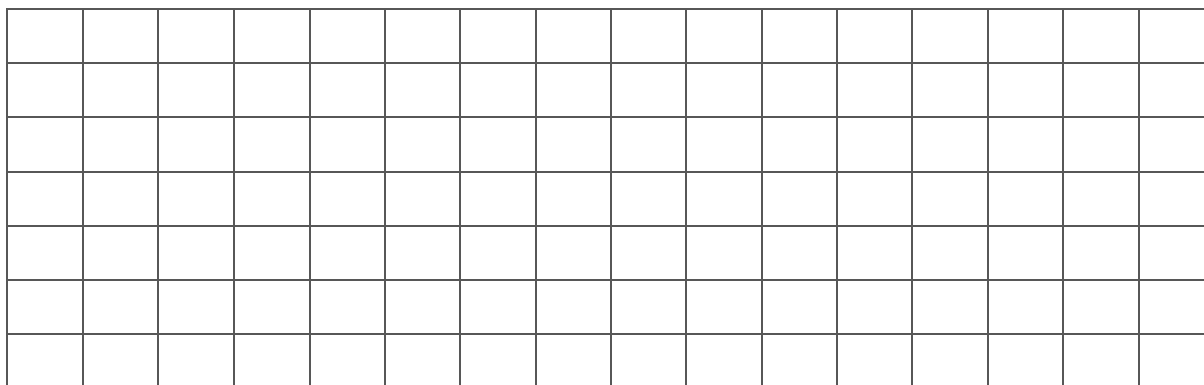
(2 marks)

.....
(1 mark)

12 Work out each of the following:

(a) 53×17

(2 marks)



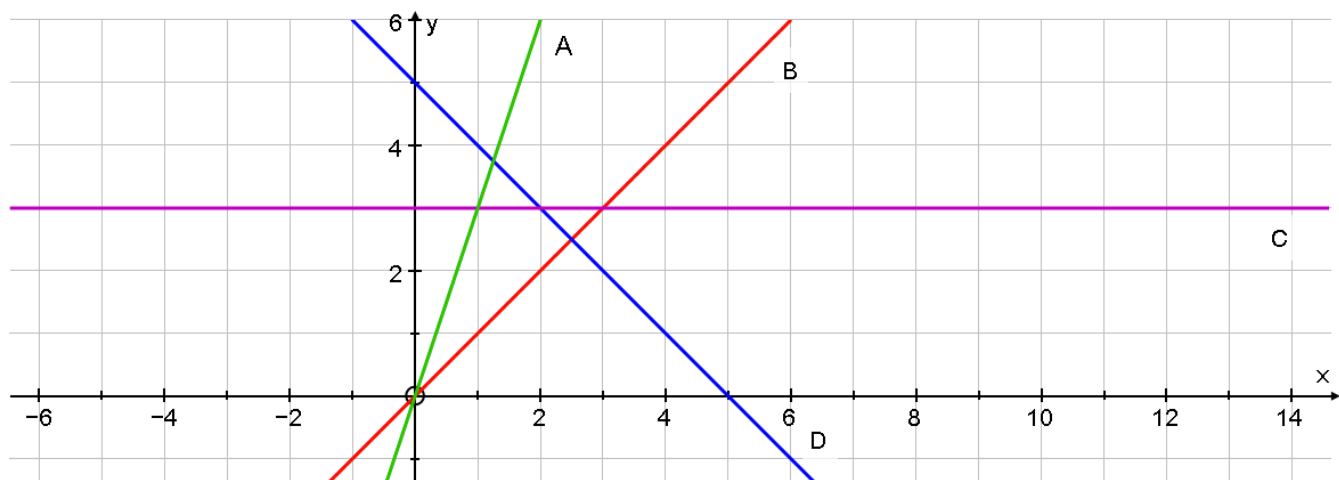
(b) 5.3×17

.....
(1 mark)

(c) 5.3×1.7

.....
(1 mark)

13 Look at the graph below:



Match each of the equations to the graph lines above.

(a) $y = x$

.....

(b) $y = 5 - x$

.....

(c) $y = 3$

.....

(d) $y = 3x$

.....

(2 marks)

14 A bag contains balls which are either red, white or blue.

There are twice as many red balls as white balls.

The probability of taking a blue ball from the bag is $\frac{1}{10}$.

What is the probability of taking a white ball from the bag?

.....

(2 marks)

Total 40

7H Half Term Assessment 4

The assessment will last a total of **40 minutes**.

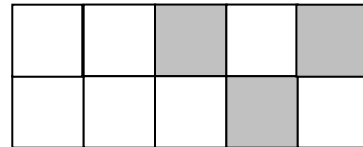
You will be given 10 minutes to work on Section A ONLY using a calculator.

You will then have 30 minutes in which to complete the rest of the paper. During this time you must NOT use a calculator but you may work on both Sections A and B.

Section A: You may use a calculator for these questions.

1 (a) Look at the shape on the right.

What **percentage** of the shape is shaded?



.....

(1 mark)

(b) Calculate 75% of £260? You **must** show working to support your answer.

.....
(2 marks)

2 Given that $x = 3y + 2z$, find the value of x when $y = 12$ and $z = 7$.

.....
(2 marks)

3 As a decimal $\frac{13}{16}$ is 0.8125. What is $\frac{29}{16}$ as a decimal?

.....
(2 marks)

4 Esha and Fran each spun a spinner with 8 numbers. The table shows how many twos they spun.

	Esha	Fran
Total number of spins	50	70
Number of twos	7	11

Which person had the greater proportion of twos? You *must* show your working.

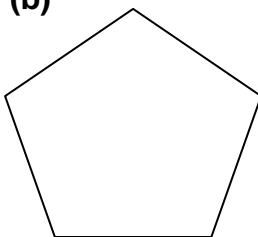
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(3 marks)

Section B: You must not use a calculator for these questions.

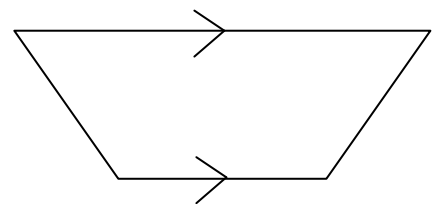
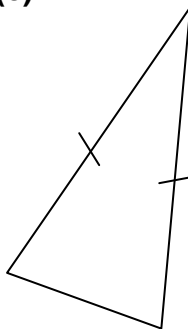
5 Name the following polygons. Give the special names of any quadrilaterals and triangles.

(a)



(b)

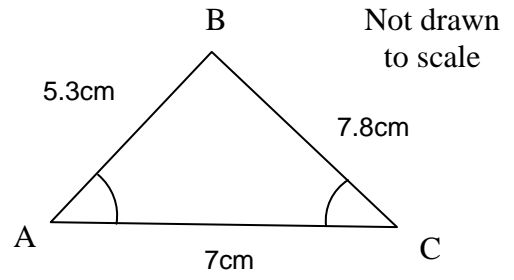
(c)



.....

(3 marks)

6 (a) Construct triangle ABC accurately.

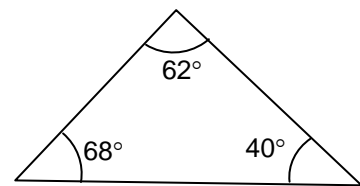


(b) What is the size of angle ABC?

(3 marks)

.....
(1 mark)

(c) Karen drew a triangle and measured the angles. The diagram shows her results.
How do you know that Karen made a mistake?



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

(1 mark)



7 Caroline scored 18 out of 20 in a test. What percentage did she score?

.....
(2 marks)

8 Solve the following equations.

(a) $x + 17 = 25$

.....
(1 mark)

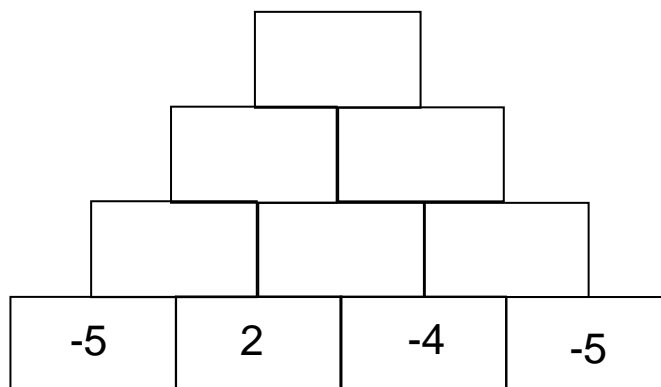
(b) $\frac{x}{6} = 8$

.....
(1 mark)

(c) $8x - 5 = 19$

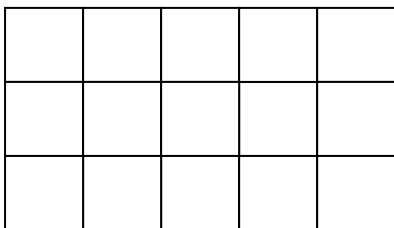
.....
(2 marks)

9 Number walls are formed by adding numbers next to each other to get the number above. Complete the number wall below.



(2 marks)

10 Shade in this diagram so that the ratio of shaded to white squares is 3:2.



(2 marks)

11 Every rectangle and every parallelogram have the property:

They each have four sides.

(a) State another property that every rectangle and every parallelogram has.

.....
.....

(1 mark)

(b) Give a property of the rectangle that is not a property of the parallelogram.

.....
.....

(1 mark)

12 Work out each of the following:

(a) $7 + (-3)$

.....
(1 mark)

(b) $(-5) + (-4)$

.....
(1 mark)

(c) $(-7) - (-9)$

.....
(1 mark)

13 Expand

(a) $2(5m + 4)$

.....
(1 mark)

(b) $x(y - x)$

.....
(1 mark)

14 Ben says:

Think of a number
Subtract 5 from it
Multiply the result by 3
Add 7 to it
The answer is 10

Write down an equation and solve it to find Ben's number.

.....
(3 marks)

15 Write the ratio $4 : 7$ in the form of $1 : n$.

.....
(2 marks)

Total 40