WOLDINGHAM SCHOOL

Entrance Examination

11+ Entry 2016

Mathematics

Name: _____

Current School: _____

- 45 minutes allowed
- Please show any working
- Attempt all questions
- No calculators allowed

For Official Use Only	
Mark	Comment:
Percentage	
Please return by ……	

SECTION A - You do not need to show working. Write answers in the spaces provided. All questions are worth 1 mark each

No	Question	Answer	Leave blank
1	Calculate 7 x 9		
2	Calculate 42 ÷ 7		
3	Calculate 80 ÷ 10		
4	Calculate 6000 ÷ 100		
5	Calculate 34.2 x 10		
6	Calculate 98.9 x 1000		
7	Change $\frac{3}{4}$ to a percentage		
8	What are the 10th term of this sequence 7 , 12 , 17 , 22 , 27		
9	Calculate $-54 + 36$		
10	Calculate $17 - - 34$		
11	Calculate $\frac{7}{9} + \frac{1}{9}$		
12	Calculate $\frac{5}{8} - \frac{1}{4}$		
13	Simplify $\frac{16}{20}$		
14	Write as a mixed number $\frac{10}{3}$		
15	Round 3.456 to 2 decimal places		

SECTION B – You must show all your working.

Q1. Number grid

Here is a number grid.

41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90

Two squares are shaded.

(a) What is the **total** of the numbers in the two shaded squares?

…….

1 mark

(b) Shade **two different squares** that have the **same total** as the answer to part (a).

1 mark

(c) What is the **total** of the numbers in **all four** shaded squares?

…….

1 mark

Q2. Dishes

In a restaurant, the colour of each dish shows how much the food in it costs.

The table shows the different colours and costs.

Colour of dish	Cost
Green	£1.50
Blue	£ 2.00
Red	£ 2.50
Orange	£ 3.00
Pink	£ 3.50

(a) Meera pays for **two blue** dishes and **two pink** dishes.

Altogether, how much did they cost?

£

1 mark

(b) Victor pays for one **green**, one **red** and one **pink** dish.

He pays with a **£10 note**.

How much change should he get?

£

2 marks

(c) Rachel pays for **two dishes** that cost **exactly £4.50** altogether.

What colours could her dishes be?

There are two possible answers. Write them both.

colours: ..... and .....

1 mark

or colours: ..... and .....

1 mark

Q3. Populations

The table shows the approximate populations of five different places.

Place	Approximate population
London	7 000 000
Sheffield	700 000
Harrogate	70 000
Ash Vale	7 000
Binbrook	700

(a) Which of the places has a population of about **seventy thousand**?

.....

1 mark

(b) Use the table to complete these sentences.

The population of **Harrogate** is about **10 times** as big as the population of .....

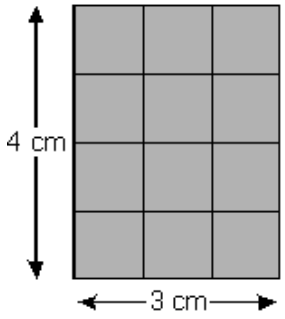
The population of ..... is about **100 times** as big as the population of **Harrogate**.

The population of **Sheffield** is about ..... **times** as big as the population of **Ash Vale**.

2 marks

Q4. Areas

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



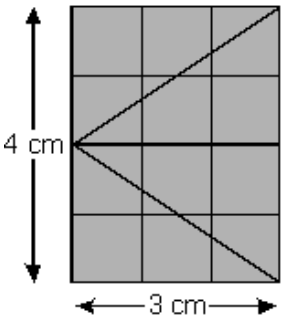
..... cm^2

1 mark

(b) I use the rectangle to make four triangles.

Each triangle is the same size.

What is the area of **one** of the triangles?



..... cm^2

1 mark

(c) I use the four triangles to make a trapezium.

What is the area of the trapezium?

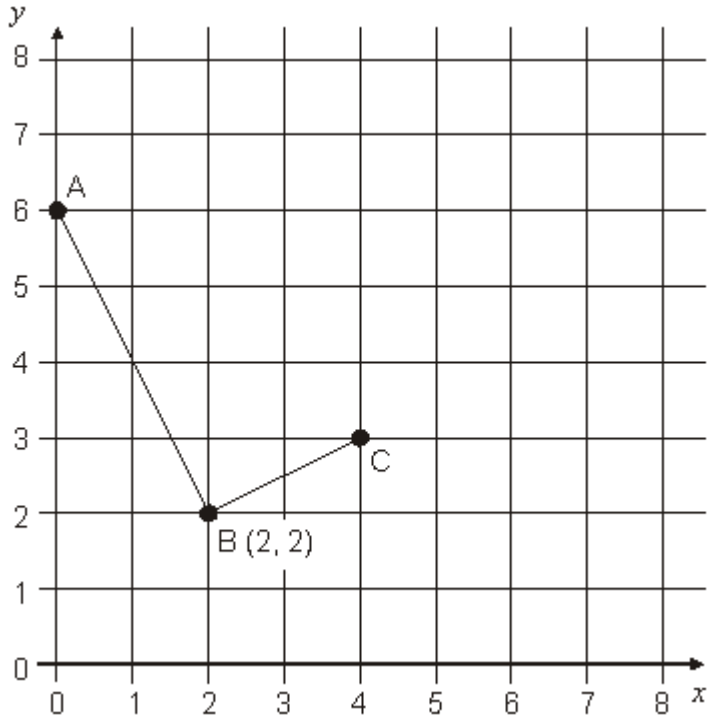


..... cm^2

1 mark

Q5. Coordinates

Look at the graph.



(a) Write down the coordinates of points A and C.

A is (,)

1 mark

C is (,)

1 mark

(b) Point D can be marked so that ABCD is a **rectangle**.

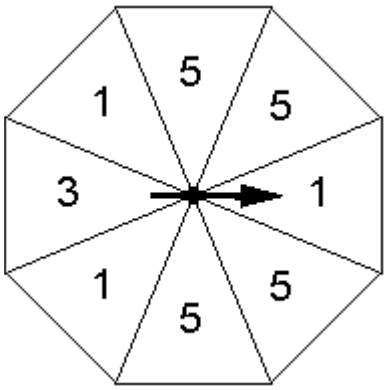
Mark point D accurately on the graph.

1 mark

Q6. Spinner

Tom has a fair spinner with 8 equal sections.

He is going to spin the pointer.



Draw lines to show how likely the following are.

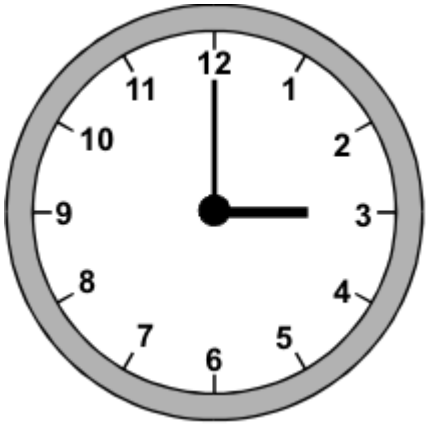
One is done for you.

He will spin the **number 3**	certain
He will spin the **number 5**	likely
He will spin the **number 6**	even chance
He will spin a **number less than 7**	unlikely
	impossible

2 marks

Q7. Clock

(a) The time on this clock is **3 o'clock**.



What is the **size** of the **angle** between the hands?

.....°

1 mark

(b) What is the size of the **angle** between the hands at **1 o'clock**?

.....°

1 mark

(c) What is the size of the **angle** between the hands at **5 o'clock**?

.....°

1 mark

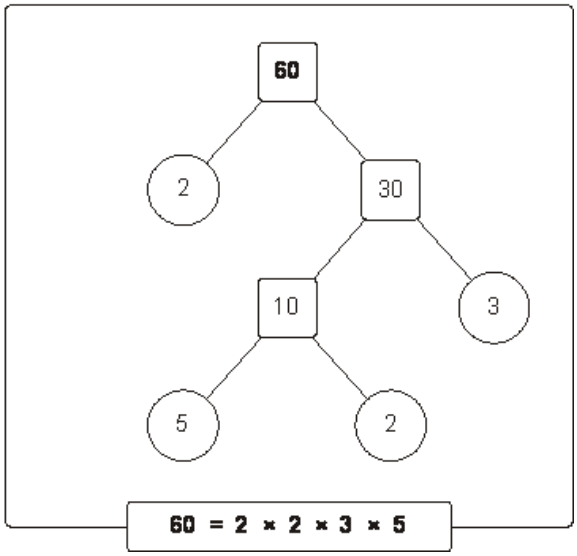
(d) How long does it take for the **minute** hand to move **360**°?

1 mark

Q8. Prime factors

You can write any whole number as a product of its prime factors.

Here is an example for the number 60:



Write **225** as a product of its prime factors.

225 = ...

2 marks

Q9. 28 times table

If I know that **9 × 28** is **252**

What is **27 × 28**?

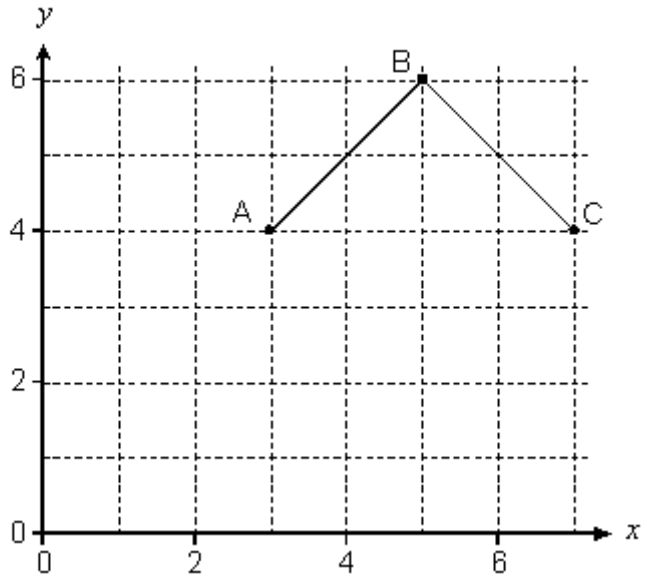
.....

2 marks

Q10. Finding D

(a) Where should you put point D so that shape ABCD is a **square**?

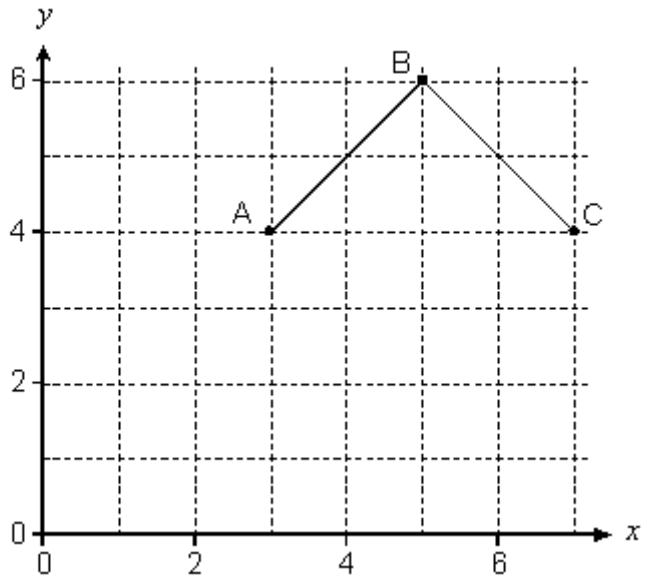
Mark point D on the grid.



1 mark

(b) Where could you put point E so that shape ABCE is a **trapezium**?

Mark point E on the grid below.



1 mark

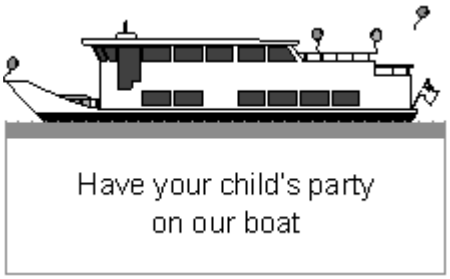
Now write the coordinates of point E

(,)

1 mark

Q11. Children's party

A boat can be hired for children's parties.



The formula below shows the cost.

Cost = £13.50 × the number of children + £23

(a) What is the cost of a party for **8 children**?

£

1 mark

(b) A different children's party cost **£225.50**

How many children were at the party?

.....

2 marks

Q12. Shoe sizes

(a) There are four people in Sita's family.

Their shoe sizes are 4, 5, 7 and 10

What is the **median** shoe size in Sita's family?

.....

1 mark

(b) There are **three** people in John's family.
The **range** of their shoe sizes is **4**

Two people in the family wear shoe size 6
John's shoe size is **not 6** and it is **not 10**

What is John's shoe size?

.....

1 mark

Q13. Fairground shooting

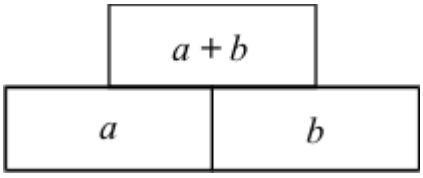
In a fairground shooting gallery each target I hit has a score which is an integer. My three shots are all scored, all three scores were different, and each score was an even number. My total was 18.

How many different solutions are there? What are they?

…… (3)

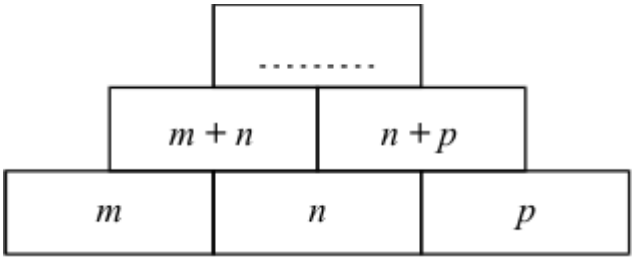
Q14. Walls

In these walls each brick is made by **adding** the **two** bricks underneath it.



(a) Write an expression for the top brick in this wall.

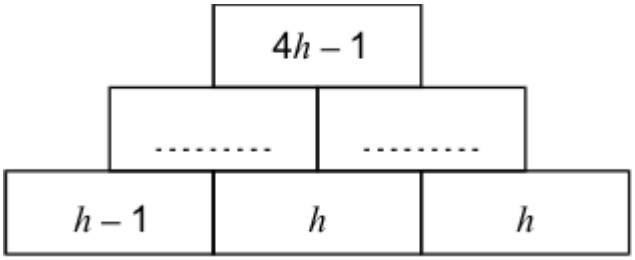
Write your expression as simply as possible.



1 mark

(b) Fill in the missing expression on these walls.

Write your expression as simply as possible.

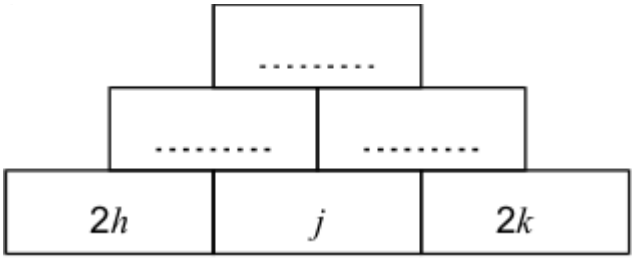


2 marks

(c) In the wall below, h j and k can be any whole numbers.

Explain why the top brick of the wall must **always** be an **even** number.

You can fill in the missing expressions if you want to.



2 marks

END OF PAPER – NOW GO BACK AND CHECK YOUR WORK