Reigate Grammar School

11+ Entrance Examination
January 2015

MATHEMATICS

Time allowed: 45 minutes

NAME……………………………………………………………

- **Work through the paper carefully**
- **<u>You do not have to finish everything</u>**
- **Do not spend too much time on any single question**
- **Show any working in the spaces provided**
- **Use the blank left hand pages for rough work**

PAGE	2	3	4	5	6	7	8	9	10	11	TOTAL
MARK	15	12	21	4	6	8	10	9	10	5	100
MARK											

ANSWER ALL QUESTIONS IN THE SPACES PROVIDED, SHOWING ANY
NECESSARY WORKING

			DO NOT WRITE IN THIS BOX
$1176 + 888 =$	$1176 - 888 =$	$1176 \times 8 =$	1 1 1
Use your previous answer to calculate 1176×80	Use these last two answers to calculate 1176×88	Use your previous answer to write down 1176×0.88	1 1 1
$11.76 + 0.38 =$	$11.76 + 3.8 =$	$11.76 + 38 =$	1 1 1
What is 400×53? What is 400×0.53?	What is $6300 \div 100$? What is $6300 \div 300$?	Write down the next two numbers in the sequence: 1, 2, 5, 10, 17, …	1 1 1 1 2

			DO NOT WRITE IN THIS BOX
Write the number 'One hundred and seventy thousand, one hundred and five' in figures.	Put these numbers in order of size, starting with the SMALLEST 4.04, 4.4, 4, 4.44, 4.404	What is 10% of £250? What is 2% of £250?	1 1 1 1
This multiplication has been worked out for you. $43 \times 82 = 3526$ What is $3526 \div 82$? What is $3526 \div 41$?	Write 30% as a fraction in its lowest terms. Write $\frac{3}{4}$ as a decimal	What is the missing number? $52 - \text{.............} = 34$	1 1 1 1 1
What is the missing number? $360 \div \text{...........} = 18$	What is the missing number? $(8 + \text{...........}) \times 3 = 42$	What is the missing number? $\dfrac{62 - \text{.............}}{6} = 9$	1 1 1

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What is 0.7 written as a fraction?	What is 0.007 written as a fraction?	What is 0.707 written as a fraction?	DO NOT WRITE IN THIS BOX 1 1 2
$\frac{3}{5}+\frac{5}{6}$	$\frac{5}{7}-\frac{3}{5}$	$\frac{3}{7}\times\frac{1}{2}$	2 2 1
$\frac{3}{7}\div\frac{1}{2}$	$2\frac{1}{8}+1\frac{3}{4}$	$4\frac{1}{4}-2\frac{1}{3}$	2 2 2
How many minutes are there in one day?	What is the biggest number that divides exactly into 16, 32, and 40?	Write down the next two numbers in the sequence: 1, −2, 4, −8, …	2 2 2

The bar graph below shows the number of television sets in each house in a street.
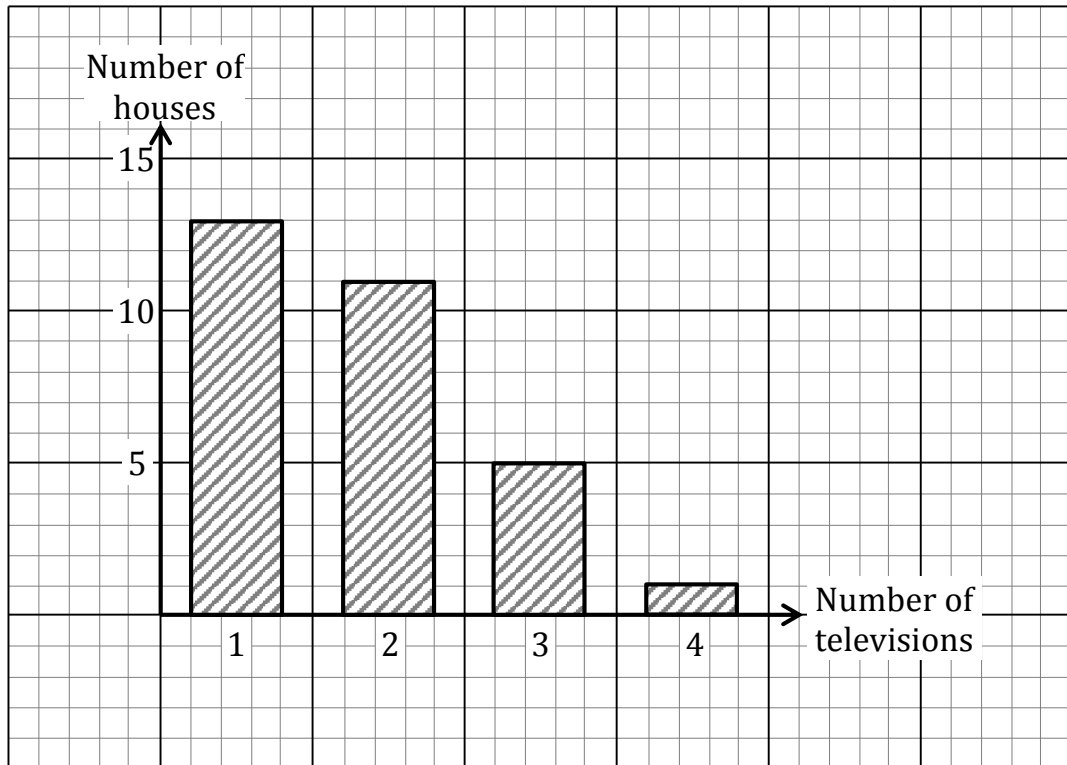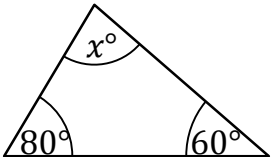
How many houses have 2 televisions?
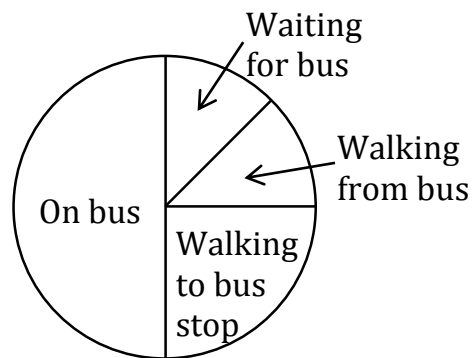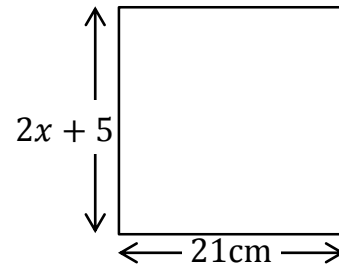
1
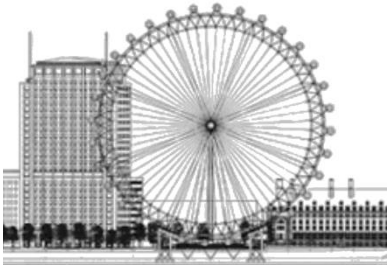
How many houses are there in the street?

1

How many television sets are there in the street?
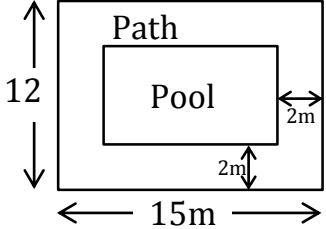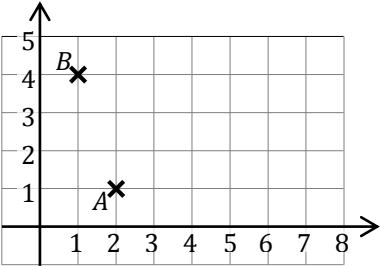
2

If a square has an area of 36cm^2, what is its perimeter?	2
Think about what the two 8s mean in the number 384851. What is the difference between the values of the two 8s?	2
On January 1st, the temperature in Moscow was –6°C and the temperature in Rome was 13°C. How many degrees warmer was it in Rome than in Moscow?	2

The London Eye has 32 passenger capsules, each of which can take up to 18 people. What is the maximum number of passengers that can travel at any one time?	2
I think of a number, multiply it by 4, then take away 5. The result is 43. What was the number I first thought of?	2
Peter has to be at work at 8:15am. It takes him 15 minutes to get dressed, 20 minutes to eat breakfast and 12 minutes to drive to work. What is the latest time Peter could get up to get to work on time?	2
Calculate the value of x in the triangle shown.	2

Mr Smith drives to his Aunt's house at an average speed of 50 km/h, and it takes him 2 hours to get there. How far away does Mr Smith's Aunt live?	2
What was his average speed home again if it takes him $2\frac{1}{2}$ hours to get back?	2

If the shape to the right is a square, work out the value of x.	$2x + 5$ $\longleftarrow$ 21cm $\longrightarrow$	2
A regular pentagon has the same side length as the square. What is its perimeter?		2

It takes Karen 40 minutes to get to school in the morning. The pie chart shows how the time is divided. How long does Karen spend on the bus?	Waiting for bus / Walking from bus / On bus / Walking to bus stop	1
How long does Karen spend walking?		1

Cooking a turkey takes 25 minutes per kg. How long does it take to cook a 4kg turkey?	1
If the turkey is to be eaten at 1:30pm, what time should it be put in the oven?	2

The plan on the right shows a garden. There is a 2m wide path around the edge of the garden, with a swimming pool inside the path. Find the area of the path.	2

Path

12   Pool

2m

2m

← 15m →

In the diagram below, the point B has coordinates (1,4).	
Write down the coordinates of point A.	1
The point C has coordinates (7,1). Mark C on the diagram and then draw a line from B to C.	1
The point D is on the line you have drawn, and it is twice as far from B as from C. Mark D on the diagram and write down its coordinates.	2

Arabella and Linda have some money. Arabella has £13 more than Linda, together they have £51. How much money does Arabella have?	2
In a car park there are 60 cars. $\frac{5}{12}$ of the cars are red and 20% of the cars are blue. How many cars are there that are neither red nor blue?	3
A new mathematical operation has been invented. For any two numbers $x \boxdot y$ means 'multiply x by three, then add y', $4 \boxdot 2$ means $$4 \times 3 + 2 = 12 + 2 = 14$$ What is $6 \boxdot 4$?	1
What value of a makes $a \boxdot 5 = 29$?	2
Find b if $b \boxdot b = 52$.	2

There are 5 competitors in a tennis competition. If each player plays every other player once only, how many matches will there be?	1
The digit sum of 2016 is $2 + 0 + 1 + 6 = 9$, which is a square number. How many years during the 21st century have a square digit sum?	2
At a birthday party, one half drank only lemonade, one third drank only cola, 15 people drank neither, and nobody drank both. How many people were at the party?	2

<u>END OF EXAMINATION</u>