Reigate Grammar School

11+ Entrance Examination
January 2011

MATHEMATICS

Time allowed: 45 minutes

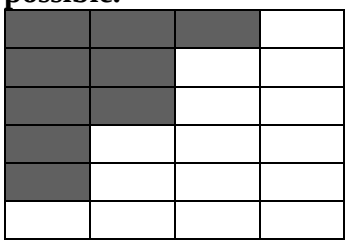
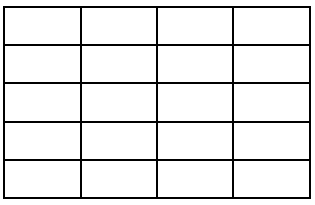
NAME.....

- **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	1	2	3	4	5	6	7	TOTAL
MARK	17	20	21	6	12	15	9	100
MARK								

Complete each of the following, showing your working in the space provided

2011 + 999 =	**2011 – 999 =**	**2011 × 11 =**	**Do not write in this box** **1** **1** **1**
Use your previous answer to find **20.11 × 1.1 =**	**What is 24 x 9?**	**Use your previous answer to write down the answer to 2400 x 90**	**1** **1** **1**
20.11 + 0.09 =	**20.11 + 0.9 =**	**20.11 + 9 =**	**1** **1** **1**
Given that **25 × 19 = 475** **Use this answer to find** **475 ÷ 19 =** **and** **47500 ÷ 19 =** **and** **(475 + 475) ÷ 19 =**	**Given that** **567 ÷ 27 = 21** **Use this answer to find** **567 ÷ 21 =** **and** **56.7 ÷ 2.7 =**	**What is 4000 ÷ 40** **…….** **Use your answer to write down the answers to** **4000 ÷ 20** **…….** **4000 ÷ 80** **…….**	**1** **1** **1** **1** **1** **1** **1** **1**

Write these three fractions in order of size, starting with the <u>largest</u> first. $\frac{1}{3}, \frac{3}{8}, \frac{2}{5}$ ……..	**What is 10% of £400** …… **Use your answer to write down** $7\frac{1}{2}$ **% of £400** ……	**Find five eighths of 408p** ……..	**Do not write in this box** **1** **1** **1** **2**
Write these three decimals in order of size, starting with the <u>largest</u> first. **0.92, 0.9, 0.909** ……..	**What is the smallest number that 2, 3 and 4 all divide into exactly?** ……	**Write down a <u>fraction</u> between 0.5 and 0.6** --------- **Write down a <u>decimal</u> between** $\frac{3}{4}$ **and** 1 ---------	**1** **1** **1** **1**
Write down the number thirty three thousand and thirty three in figures. …….	**What is two thousand, four hundred and five plus one thousand, eight hundred and twenty seven in words?** …….. ……..	**What are the next two numbers in these series?** **13, 10, 7, 4, ……..** --------, ------- **2, 6, 12, 20, 30……..** -------, -------	**1** **2** **2** **2**
What fraction of this flag has been shaded? Give the fraction as simply as possible.  ----------	**Shade in two fifths of the flag below.** 	**Sam has £3.85 to spend. He buys a pencil for 38p and a ruler for 59p. How much does he have left?** ----------	**1** **1** **1** **1**

<table>
<tr>
<td>You arrive at a bus stop 18 minutes late. The buses run every 45 minutes. How long do you have to wait for the next bus?

----------</td>
<td>You have to catch the bus after school. Buses leave school at 15.55 and 16.35. If you are 4 minutes late for the first bus, how long do you have to wait for the second bus?

----------</td>
<td>Work out, simplifying your answer if possible

$\frac{2}{9} - \frac{4}{27}$

-------</td>
<td>Do not write in this box

1

1

1

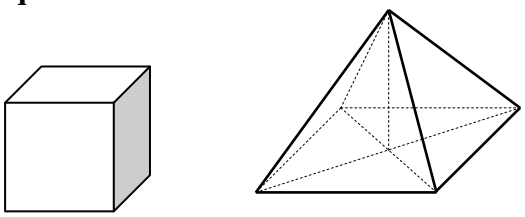
1

1</td>
</tr>
<tr>
<td>Change these fractions into decimals.

1/4 = …….

1/40 = ……..

3/400 = …….</td>
<td colspan="2">Fill in the table below with the information requested.

<table>
<tr><th></th><th>CUBE</th><th>PYRAMID</th></tr>
<tr><td>Number of corners</td><td></td><td></td></tr>
<tr><td>Number of edges</td><td></td><td></td></tr>
<tr><td>Number of faces (surfaces)</td><td></td><td></td></tr>
</table></td>
<td>1

1

1

6</td>
</tr>
<tr>
<td>When you add up two numbers you get 11, but when you multiply the two numbers you get 28. What are the two numbers?

----------</td>
<td colspan="2">I think of a number, double it and take away 5. The answer is 13. What was my number?

I think of another number, take away 5 and then double it. My answer is again 16. What was my number this time?

Finally I think of another number, multiply it by itself and take away 5. My answer is 31. What was the number I thought of?

----------</td>
<td>1

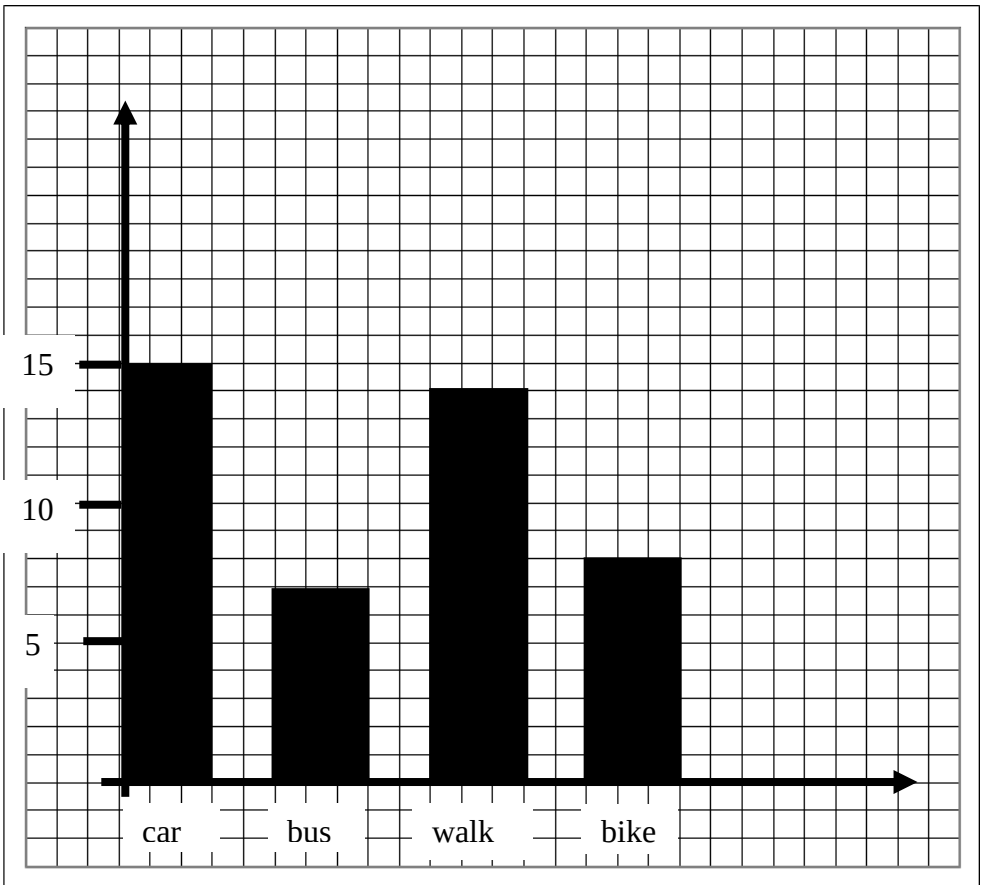
2

2

2</td>
</tr>
</table>

George carries out a survey at school to find out how his school friends travel to school. He represents this data on the bar chart shown below.

Do not write in this box



(a) Fill in the table below

Method of Transport	Number
CAR	
BUS	
WALK	
BIKE	

4

(b) How many people were in the survey?

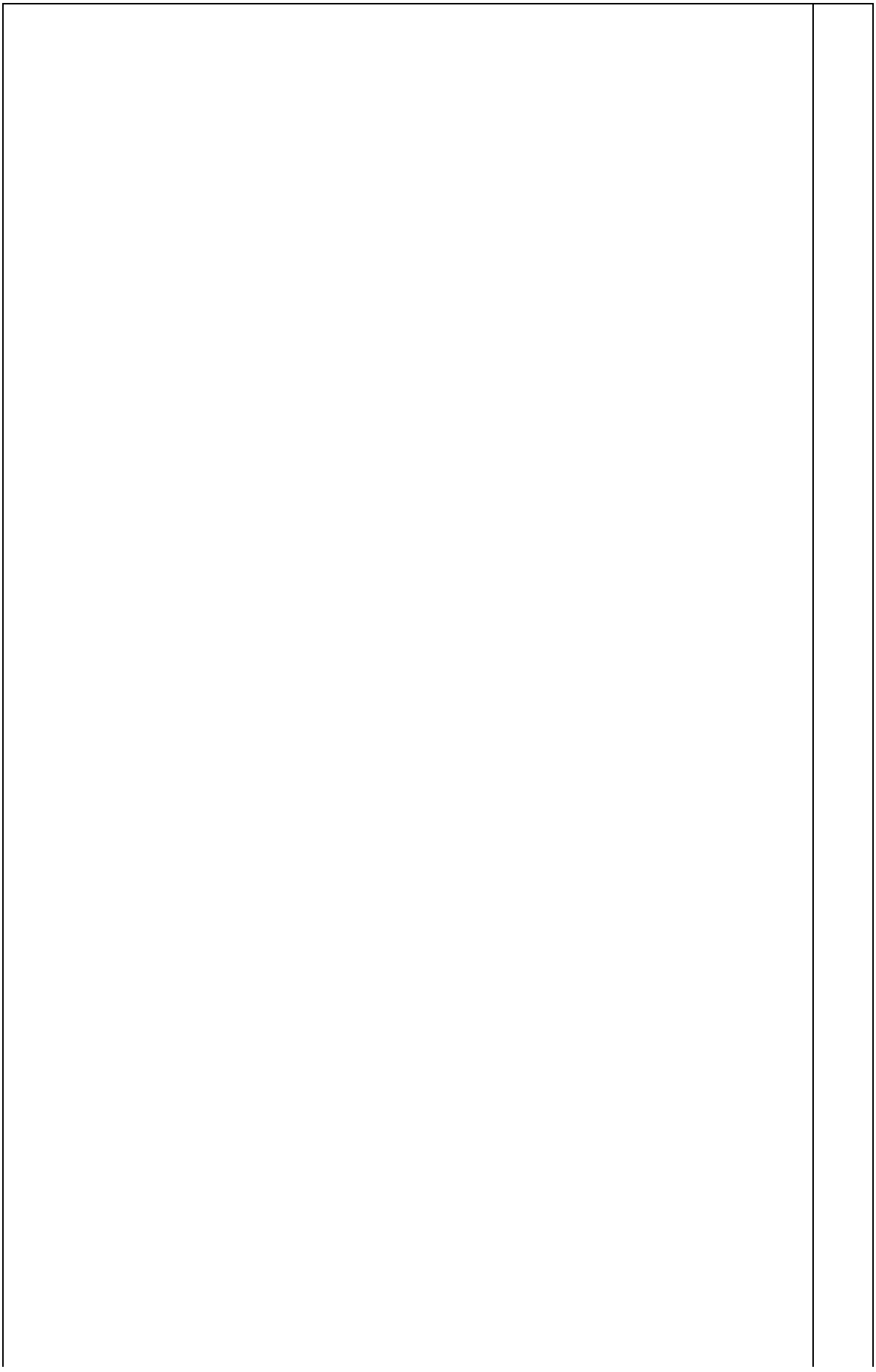
1

……..

(c) In an attempt to improve the environment children are encouraged to find a "greener" way to get to school. A third of those who travel by car decide to walk and 3 move from bus to walking too. How many now walk?

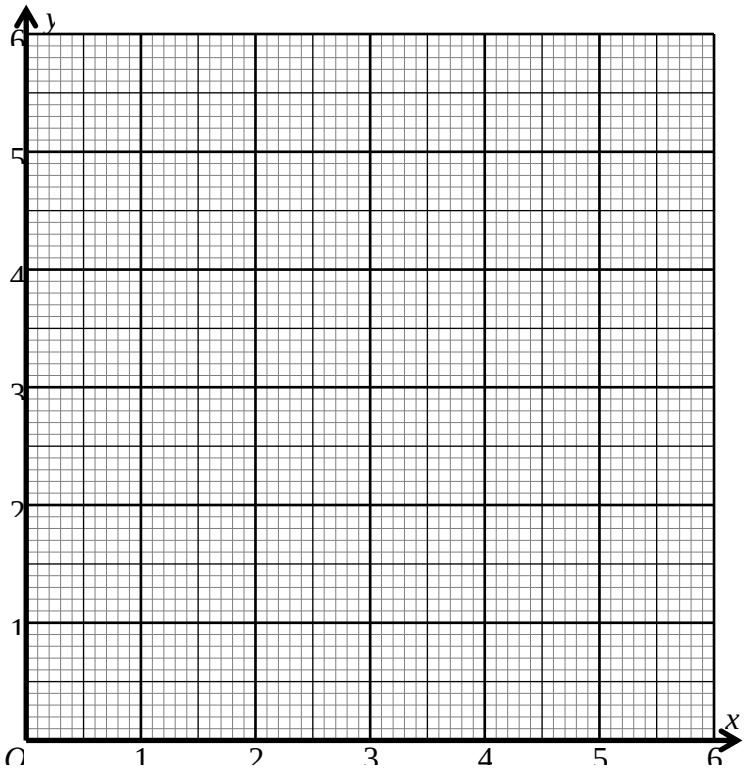
1

……..



In the following questions fill in the missing number. You can only use WHOLE numbers.

			Do not write in this box
(…… + 4) x 7 = 63	2 x ….. + 7 = 33	….. x …. = 21	3
187 ÷ ….. = 11	$\frac{\ldots. + 6}{3} = 5$	$(13 - \ldots\ldots)^2 = 25$	3



On the graph paper above plot the points with coordinates and labels

A=(0,2) B=(1,5) C=(4,4) D=(3,1) E=(2,2) F=(1,1) and G=(5,3) **3**

Which 3 letters form a straight line?

…… **1**

Which 4 letters form a rectangle?

…… **1**

Which 4 letters form a square?

…… **1**

The vehicles listed below were seen driving past the front of Reigate Grammar School between 4.00pm and 4.15pm last night.

Do not write in this box

2 coaches each with 52 passengers and a driver	**2 x 53 =**	**106**
5 lorries each with a driver only		
3 minibuses each with 15 passengers and a driver		
6 cars with only a driver		
4 cars with a driver and 1 passenger each		
5 cars with a driver and 2 passengers each		

2

2

2

2

2

Fill in the table and use your table to find;

(a) How many vehicles passed the front of school?

1

…….

(b) How many people passed the front of school?

1

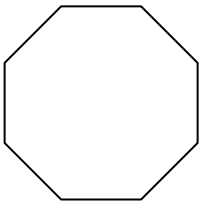
…….

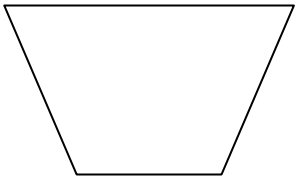
(c) How many passengers passed the front of school?

1

…….

Name the two shapes shown below





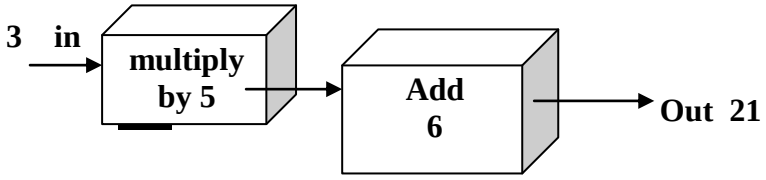
1

1

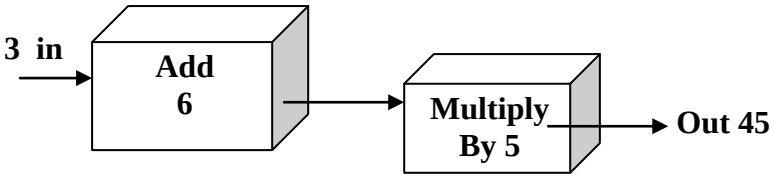
…….. **……**

Tom has a number machine which multiplies by 5 and then adds 6
When he puts 3 in the answer comes out as 21

Do not write in this box



Sarah then changes the boxes around so that when she puts in 3 her answer is 45



They both put the same number into their machines. **2**

If 41 comes out of Tom's machine what comes out of Sarah's?……...

2

If 55 comes out of Sarah's machine what comes out of Tom's?……...

The number pattern below is known as Pascal's Triangle. Each number is the sum of the two numbers directly above it.

Row 1 1
Row 2 1 1
Row 3 1 2 1
1 3 3 1
1 4 6 4 1
1 5 10 10 5 1

Complete the table below

ROW	TOTAL	
1	1	
2	2	2
3	4	2x2
4		2x2x2
5		
6		
7		

1
1
1
1

What will be the total in row 10? **1**

……