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11+ Entrance Examination
January 2013

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	8	TOTAL
MARK	18	22	18	9	14	9	5	5	100
MARK									

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PAGE 1

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

2030 + 997 =	2030 – 997 =	What is 2030 x 20?	DO NOT WRITE IN THIS BOX 1 1 1
Use your previous answer to write down 2030 x 5	Use these last two answers to write down 2030 x 25	Use your previous answer to write down 20.30 x 2.5	1 1 1
20.30 + 0.07 =	20.30 + 0.7 =	20.30 + 7 =	1 1 1
Given that 74 x 39 = 2886 What is 2886 ÷ 74 ? What is 288.6 ÷ 74? What is (28862886) ÷ 74?	What is 500 x 15 ? What is 500 x 1.5? What is 500 x 0.15?	What is 6000 ÷ 100? What is 6000 ÷ 200? What is 6000 ÷ 300?	1 1 1 1 1 1 1 1 1 1

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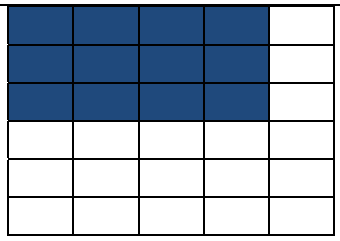
PAGE 2

Which of these three is the largest and which is the smallest? 65% 0.605 $\frac{3}{5}$ Largest = Smallest =	What is 10% of £250? What is 5% of £250? What is $2^1/_2$% of £250? Use your answers to find $17^1/_2$% of £250	Find one seventh of 280 Use your answer to find four sevenths of 280	DO NOT WRITE IN THIS BOX 1 1 1 1 1 1 1 1
Add together 25% of 20 $\frac{1}{5}$ of 30 and $\frac{2}{3}$ of 18	Richard is 18 years old. Adam is half as old as Richard. Will is $\frac{2}{3}$ of Adam's age. What is their total age?	Write down a decimal between 90% and 95% Write down a fraction between 80% and 90%	1 1 1 1 1 1 1 1 1
What are the next two numbers in these sequences 2, 6, 12, 20, 30,..... .....and..... 1, 4, 9, 16, 25, 36,..... .....and.....	Put these decimals in order, starting with the largest. 0.201, 0.021, 0.21	 What fraction of this flag is shaded? How many more rectangles need to be shaded to fill $\frac{4}{5}$ of the flag?	1 1 1 1 1

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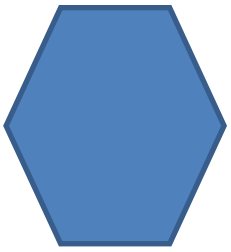
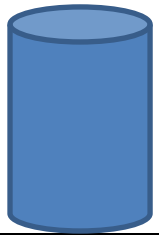
PAGE 3

Work out $\frac{2}{3} + \frac{2}{9}$	Work out $\frac{5}{8} - \frac{3}{5}$	Add together the following, giving your answer as a DECIMAL $\frac{2}{5}$, 35% and 0.604	DO NOT WRITE IN THIS BOX 1 1 1 1 1 1 1
What is the biggest number that divides exactly into 28 , 84 and 126 ?	What is the smallest number that 3, 5, and 12 all divide into?	Find two numbers that have a difference of 8 and add up to 18 ……and…….	1 1 1
What is 0.3 written as a fraction? What is 0.03 written as a fraction? What is 0.303 written as a fraction?	What is $\frac{1}{4}$ written as a decimal? What is $\frac{1}{40}$ written as a decimal? What is $\frac{7}{40}$ written as a decimal?	Name the shapes below  	1 1 1 1 1 1 1 1

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A teacher asks the students in year 6 how many people live in their homes. She records her results in the table below.

DO NOT WRITE IN THIS BOX

Number of people in house	Number of times	Total number of people
3	45	3 x 45 =135
4	25	
5	17	
6	10	
7	3	

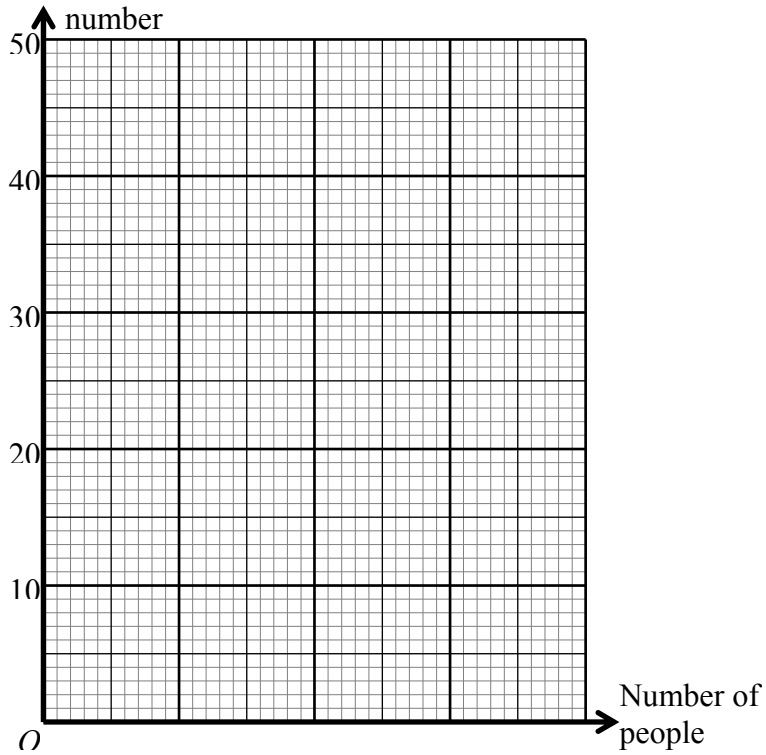
1
1
1
1

Complete the end column in the table

How many students are there in year 6?..... 1

How many people are there all together?..... 1

Using the first two columns of the table, draw a bar chart to represent these results.



1
1
1

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What are the missing numbers in the sums shown below?

			DO NOT WRITE IN THIS BOX
27 - …… = 19	…….. – 59 = 24	270 ÷ …….. = 15	3
(8 + ……..) x 4 = 88	…….. x ……. = 25	(24 - ……..) / 3 = 7	3
3 x …… + 4 = 22	……. ÷ 7 = 13	(……. + 4) / 8 = 3	3

Here are some number cards

You can use each card once to make the number 2538 like this

What is the biggest 4 digit number you can make with the four cards?..... 1

What is the smallest 4 digit number you can make with the four cards?..... 1

What is the biggest even number you can make with three of the cards? 1

Use some of the four number cards to make numbers as close as possible to the numbers given below

60 → 1

400 → 1

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The diagram below is a scale drawing of a Z shaped path of area $20m^2$

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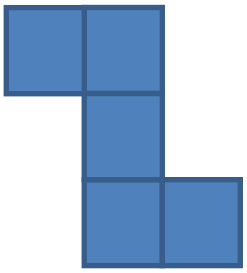


What is the area of each individual square? 1

.....

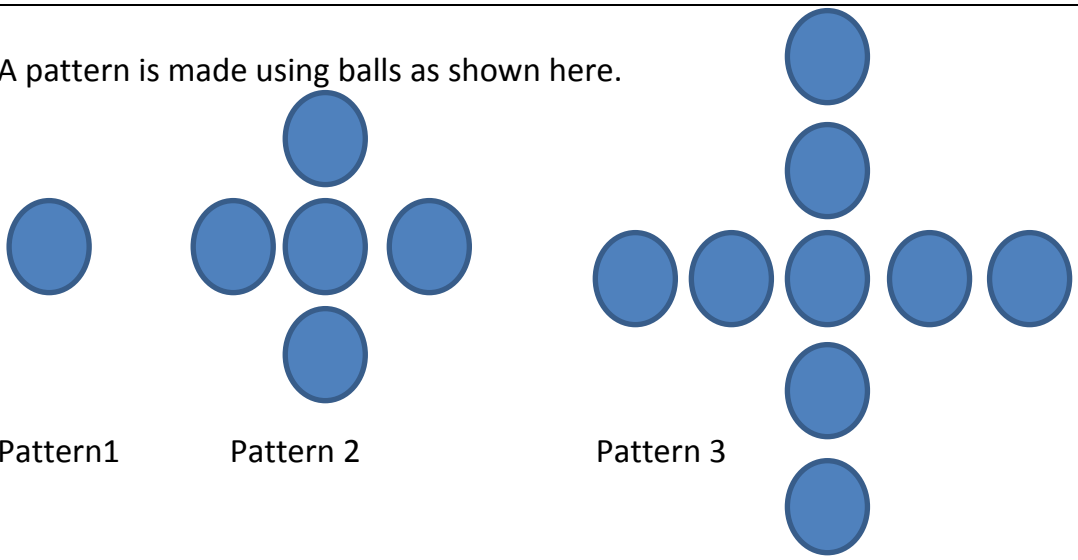
What is the length of each side of each individual square? 1

.....

What is the perimeter of the path? 1

.....

A pattern is made using balls as shown here.



Pattern1 Pattern 2 Pattern 3

Copy and complete the table below. 1

Pattern	1	2	3	4	5
Number of Balls	1	5			

1

How many balls are there in the 10th pattern? 1

.....

How many balls are there in the 100th pattern? 1

.....

Which pattern has 117 balls? 1

.....

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	DO NOT WRITE IN THIS BOX
Which of these is the smallest fraction? Circle your answer. $\frac{3}{4}$ $\frac{2}{3}$ $\frac{5}{12}$ $\frac{9}{14}$	1
I have forgotten the last two digits of my PIN number, but know that the first two digits are 8 and 6 8 6 * * However, I know that my PIN number is divisible by 3, 4 and 5. What is my PIN number?	1
What is the 100th symbol in this endless string of symbols &£=&£=&£=&£=&£=	1
On holiday last year Phil bought 10 post cards at 45p each and 10 second class stamps at 27p each. How much change did he get from a £10 note?	1
Which of these fractions is the biggest? Circle your answer. $\frac{1+2}{2+3}$ $\frac{2+4}{2+3}$ $\frac{1+2}{4+6}$ $\frac{3+4}{2+3}$ $\frac{1+4}{1+3}$	1

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In a game of football the final score was 3-2. How many possible half time scores were there?	DO NOT WRITE IN THIS BOX 1
What is the sum of the first 40 whole numbers ?	1
How many numbers less than 100 are divisible by both 2 and 5?	1
Seven telegraph poles are equally spaced along a road. The distance between the first and the third pole is 268m. How far is it between the first and last pole?	1
A block of chocolate is divided between three friends. Paul gets half of it and Peter gets one third of it. Richard gets 100g of chocolate. How heavy was the bar originally?	1

END OF EXAMINATION