Reigate Grammar School



11+ Entrance Examination January 2012

MATHEMATICS

Time allowed: 45 minutes

NAME.....

- Work through the paper carefully
- You do not have to finish everything
- 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	18	24	18	8	14	8	10	100
MARK								

PAGE 1 ANSWER ALL QUESTIONS IN THE SPACES PROVIDED, SHOWING ANY NECESSARY WORKINGS

2002 + 999 =	2002 – 999 =	What is 2002 x 10?	DO NOT WRITE IN THIS BOX
			1 1
			1
Use your previous answer to write down 2002 x 5	Use these last two answers to write down 2002 x 15	Use your previous answer to write down 20.02 x 1.5	1
			1
			1
20.02 + 0.07 =	20.02 + 0.7 =	20.02 + 7 =	1
			1
			1
Given that 35 x 17 = 595	What is 600 x 12 ?	What is 8000 ÷ 100?	1
333			1
What is 595 ÷ 17 ?			1
	What is 600 x 1.2?	What is 8000 ÷ 400?	1
			1 1
What is 59500 ÷ 17?			1
	What is 600 x 0.12?	What is 8000 ÷ 50?	1
What is (595 + 595 + 595) ÷ 17?			1

PAGE 2

<u> </u>	1	1	I =- 1
Which of these three	What is 10% of £600?	Find one ninth of 360	DO NOT WRITE
is the largest and			IN THIS
which is the smallest?			вох
	What is 5% of £600?		1
70% 0.65 <u>4</u>			1
5			
	What is 2 ¹ / ₂ % of		1
	£600?	Use your answer to	1
		find four ninths of 360	1
Largest =			1
	Use your answers to		
Smallest =	find 17 ¹ / ₂ % of £600		1
			1
Add together	Richard is 12 years	Write down a decimal	4
	old.	between 75% and 80%	1
<u>1</u> of 24			1
4	Adam is twice as old		1
<u>2</u> of 30	as Richard.		1
5			_
and <u>1</u> of 15	2	Write down a fraction	1
3	Will is $\frac{2}{3}$ of Adam's	between 60% and 70%	1
	age.		1
			_
			1
	What is their total		1
	age?		
What are the next two	Put these decimals in		
numbers in these	order, starting with		2
sequences	the largest.		2
1, 4, 8, 13, 19,	0.101, 0.011, 0.11		
			1
		What fraction of this	
and		flag is shaded?	
		ilag is silaucu:	1
1, 1, 2, 3, 5, 8,		How many more	
		rectangles need to be	1
		rectangles need to be	

and	shaded to fill $\frac{2}{3}$ of the flag?
-----	---

PAGE 3

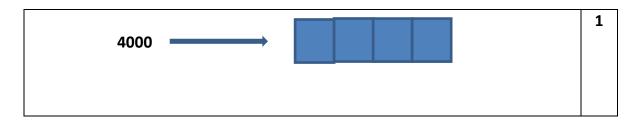
Work out $\frac{1}{3} + \frac{5}{12}$	Work out $\frac{7}{15} - \frac{2}{5}$	Add together the following, giving your answer as a DECIMAL 65%, 0.507 and $\frac{1}{4}$	DO NOT WRITE IN THIS BOX
M/h at in the himset	NA/leat is the areal leat	Find two numbers that	1 1 1 1
What is the biggest number that divides exactly into 60, 72 and 84?	What is the smallest number that 2, 3, and 8 all divide into?	have a difference of 5 and add up to 19	1 1 1
		and	
What is 0.7 written as a fraction?	What is $\frac{1}{5}$ written as a decimal?	Name the shapes below	1 1 1
What is 0.07 written as a fraction?	What is $\frac{1}{50}$ written as a decimal?		1 1 1
What is 0.707 written as a fraction?	What is $\frac{3}{50}$ written as a decimal?		1

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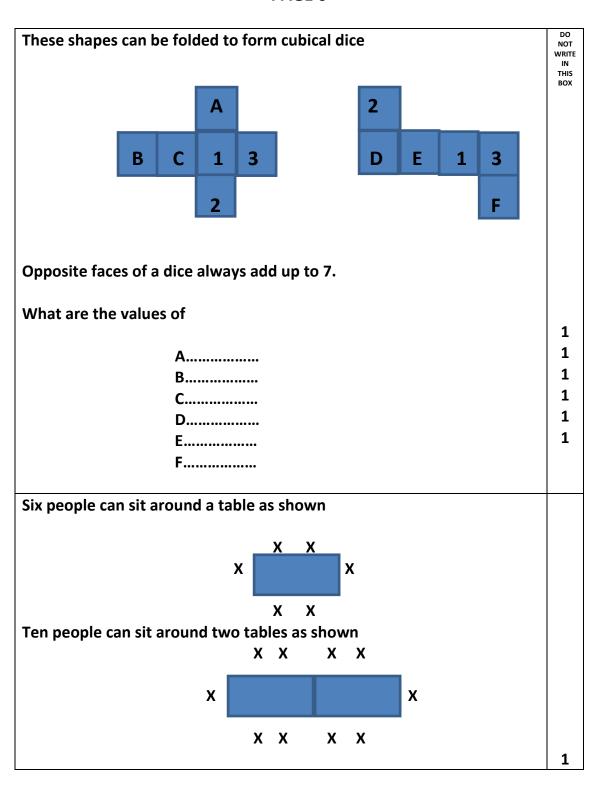
PAGE 4

		ecently carried out a surs rs were most popular.		
e pie chart k	elow.			
			■ VANILLA	
			■ MINT	
			■ STRAWBERRY	
			■ CHOCOLATE	
w many pe	ople liked	each flavour?		
		VANILLA =		
		VAINILLA	••••••	
		MINT =		
	S			
	S	MINT =		
	S	MINT = TRAWBERRY =		
aw a bar ch		MINT = TRAWBERRY =		
aw a bar ch	art to repr	MINT = TRAWBERRY = CHOCOLATE =		
aw a bar ch		MINT = TRAWBERRY = CHOCOLATE =		
aw a bar ch	art to repro	MINT = TRAWBERRY = CHOCOLATE =		
aw a bar ch	art to repro	MINT = TRAWBERRY = CHOCOLATE =		
aw a bar ch	art to repression number 50	MINT = TRAWBERRY = CHOCOLATE =		
aw a bar ch	art to repro	MINT = TRAWBERRY = CHOCOLATE =		
aw a bar ch	art to repression number 50	MINT = TRAWBERRY = CHOCOLATE =		
aw a bar ch	art to represent to number 50	MINT = TRAWBERRY = CHOCOLATE =		
aw a bar ch	art to repression number 50	MINT = TRAWBERRY = CHOCOLATE =		
aw a bar ch	art to represent to number 50	MINT = TRAWBERRY = CHOCOLATE =		
aw a bar ch	art to represent to number 50	MINT = TRAWBERRY = CHOCOLATE =		
aw a bar ch	art to reprose	MINT = TRAWBERRY = CHOCOLATE =		
aw a bar ch	art to represent to number 50	MINT = TRAWBERRY = CHOCOLATE =		
aw a bar ch	art to reprose	MINT = TRAWBERRY = CHOCOLATE =		
aw a bar ch	art to reprose	MINT = TRAWBERRY = CHOCOLATE =		
aw a bar ch	art to reprose	MINT = TRAWBERRY = CHOCOLATE =		
aw a bar ch	art to reprose	MINT = TRAWBERRY = CHOCOLATE =		

What are the missing n	PAGE 5 umbers in the sums sho	wn below?	
18 = 13	– 29 = 56	560 ÷ = 14	DO NOT WRITE IN THIS BOX
(8 +) x 5 = 85	x = 21	<u>(24)</u> = 4 4	3
3 x + 7 = 22	÷ 12 = 12	<u>(+ 4)</u> = 10 5	3
Here are some number c		3 5	
You can use each card or	1 7 3 5	735 like this	
What is the biggest number Explain why you cannot it	per you can make with the make an even number	e four cards?	1
			1
Use some of the four nur to the numbers given be	mber cards to make numb low	ers as close as possible	
50 ——			1



PAGE 6



How many people can sit around three tables in the same way?	1
How many people can sit around ten tables in the same way?	

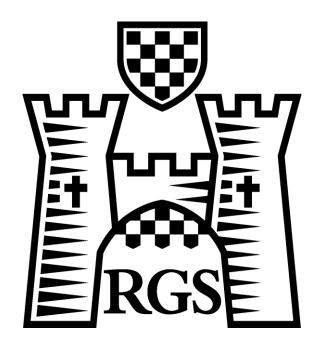
PAGE 7

Four lamp posts are in a straight line. The distance from each post to the next is 25m. What is the distance from the first post to the last?	DO NOT WRITE IN THIS BOX
What is two and thirty four hundredths when it is written as a decimal?	1
What is half of 999?	1
Which of these numbers is NOT a multiple of 3? 12 234 3456 45678 567890	1
What does 2 x 17 + 3 x 17 + 5 x 17 =?	1
Mary has three brothers and four sisters. If they, and Mary, all buy each other an Easter egg, how many eggs will be bought?	1
A transport company's vans each carry a maximum load of 12 tonnes. A firm needs to deliver 24 crates each weighing 5 tonnes. How many vans are needed?	1
What is the difference between the largest and smallest of these numbers	1
0.89 0.9 0.17 0.72 0.73	
Three quarters of a local tennis club are girls. There are 20 boys in the club. How many girls are there?	1

A ball is dropped onto a hard surface and each time it bounces, it rebounds to one third of the height from which it fell. After the second bounce it rises 9cm. How high was it initially dropped from?	1

END OF EXAMINATION

Reigate Grammar School



II+ Entrance Examination January 2011

MATHEMATICS

Time allowed: 45 minutes

NAME.....

- Work through the paper carefully
- You do not have to finish everything
- 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	ı	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

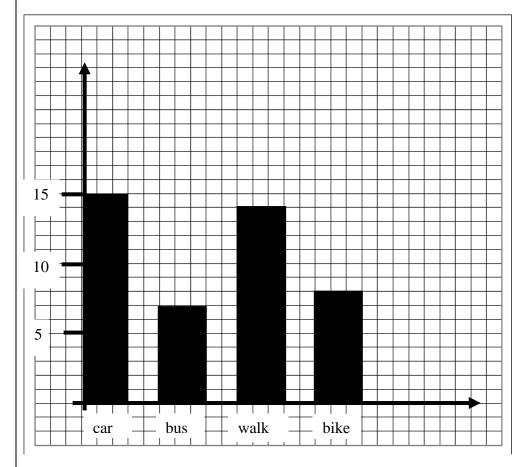
		2011 × 11 =	Do not
2011 + 999 =	2011 – 999 =	2011 × 11 =	write in this box
			1
			1
			1
Use your previous answer to find 20.11 × 1.1 =	What is 24 x 9?	Use your previous answer to write down the answer to 2400 x 90	1
			1
			1
20.11 + 0.09 =	20.11 + 0.9 =	20.11 + 9 =	1
			1
			1
Given that 25 × 19 =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

Write these three fractions in order of size,	What is 10% of £400	Find five eighths of 408p	Do not write in this
starting with the <u>largest</u>		•	box
first.	Use your answer to		1
$\frac{1}{3}, \frac{3}{8}, \frac{2}{5}$	write down $7\frac{1}{2}\%$ of		1
3′8′5	_		1
	£400		2
Write these three	What is the smallest	Write down a fraction	
decimals in order of size, starting with the <u>largest</u> first.	number that 2, 3 and 4 all divide into exactly?	between 0.5 and 0.6	1
			1
0.92, 0.9, 0.909			
		between $\frac{3}{4}$ and 1	1
	••••••		1
Write down the number	What is two thousand,	What are the next two	1
thirty three thousand and thirty three in	four hundred and five plus one thousand, eight	numbers in these series?	1
figures.	hundred and twenty	552350	
	seven in words?	13, 10, 7, 4,	2
			2
		,	2
		2, 6, 12, 20, 30	2
•••••			2
	•••••	,	
XX71 . 4 P 4 P	Cl. 1. 1. 4 6 641 6	G 1	
What fraction of this flag has been shaded? Give	Shade in two fifths of the flag below.	Sam has £3.85 to spend. He buys a	
the fraction as simply as	~ ~ · · · ·	pencil for 38p and a	
possible.		ruler for 59p. How	1
		much does he have left?	1
			1
			1

You arrive at a bus stop 18 minutes late. The buses run every 45 minutes. How long do you have to wait for the	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	Work out, simplifying your answer if possible $\frac{2}{9} - \frac{4}{27}$	Do not write in this box
next bus?	first bus, how long do you have to wait for the second bus?	<i>y</i> 21	1
			1
			1
			1
Change these fractions	Fill in the table below wi	th the information	
into decimals.	requested.	a a contraction	1
<u>1</u> =			1
4			1
<u>1</u> = <u>40</u>	Number of corners Number of edges	BE PYRAMID	6
400	Number of faces (surfaces)		
When you add up two	The state of the s	ble it and take away 5. The	
numbers you get 11, but when you multiply the two numbers you get 28. What are the two	answer is 13. What was i	ny number?	1
numbers?	I think of another number double it. My answer is a number this time?	,	2
	Finally I think of anothe itself and take away 5. M the number I thought of	ly answer is 31. What was	2
			2

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	
·	

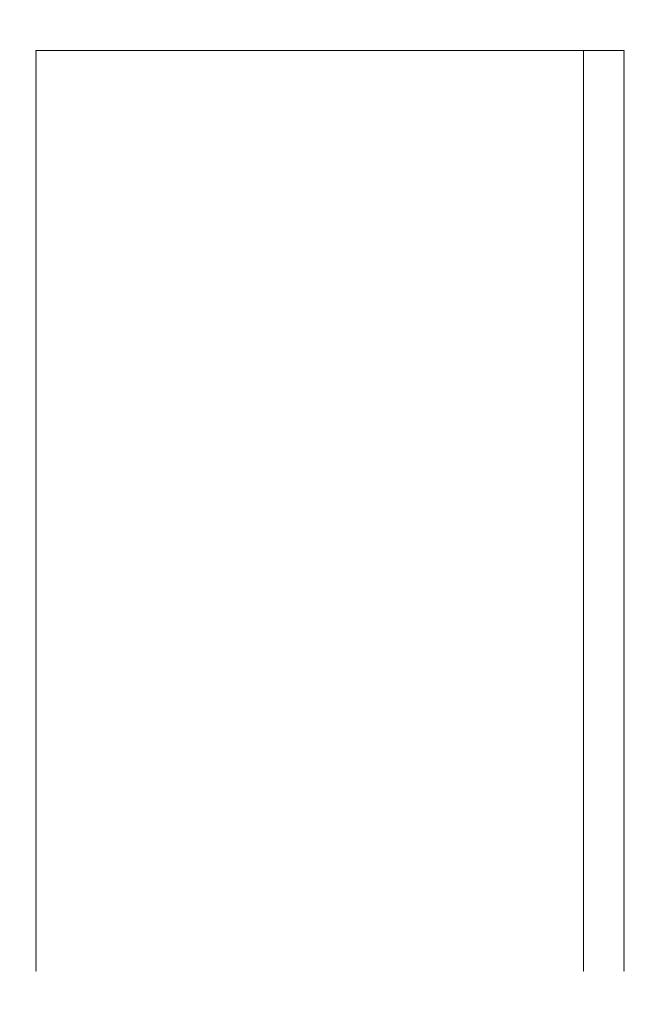
Δ

(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.

numbers.			_
$(\dots + 4) \times 7 = 63$	2 x + 7 = 33	x = 21	Do not write in this box
187 ÷ = 11	$\frac{\dots+6}{3}=5$	$(13 - \dots)^2 = 25$	3
	e plot the points with coord		
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 st	raight line?		1
Which 4 letters form a re	ctangle?		1
Which 4 letters form a sq	uare?		1

The vehicles listed below were se				eigate	Do no write
Grammar School between 4.00pt	m and 4.15p.	m iast mgi	111.		in this box
2 coaches each with 52 passenge driver	ers and a	2 x 53	=	106	
5 lorries each with a driver only	7				2
3 minibuses each with 15 passer a driver	ngers and				2
6 cars with only a driver					2
4 cars with a driver and 1 passe	nger each				2
5 cars with a driver and 2 passe each	ngers				2
Fill in the table and use your tab	le to find;		1		
(a) How many vehicles passed		f school?			
(i) I i i j i i i j i i i j i i i j i i i j i i i j i i i j i i i j i i i j i i i i j i i i i j i i i i i j i					1
(b) How many people passed	the front of	school?	•••••	•••••	
(a) 110 m 1111111, Propio Pullace	0	2 21 001 0			
		•	•••••	•••••	1
(c) How many passengers pas	ssed the fror	nt of schoo	1?		
					_
		•	•••••	•••••	1
Name the two shapes shown belo	o w				
					1
	\				1
			_		_
	••••	•	••••••		

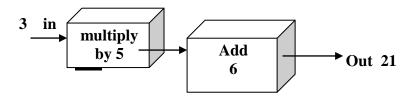
Tom has a number machine which multiplies by 5 and then adds 6 When he puts 3 in the answer comes out as 21

Do not write in this box

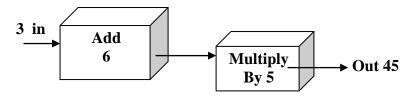
2

2

1



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.

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

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.

Complete the table below

Complete the table belo	VV .	
ROW	TOTAL	
1	1	
2	2	2
3	4	2x2
4		2x2x2
5		
6		
7		

What will be the total in row 10?

......



II+ Mathematics paper

January 2010

Time allowed: 45 minutes

NAME.....

- Work through the paper carefully
- You do not have to finish everything
- 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	I	2	3	4	5	6	7	TOTAL
MARK	16	27	20	8	П	8	10	100
MARK								

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

Complete each of the 10	1		Do not
2010 + 997 =	2010 – 997 =	2010 × 12 =	write
			in this
			box
			1
			1
			1
			1
•		•	
Use your previous	2010 ÷ 6 =	Use your previous	_
answer to find		answer to find	1
20.1 × 1.2 =		20.1 ÷ 6 =	
			1
			1
			_
22.01 . 0.00	22.01 . 0.0	22.01 . 0	
32.01 + 0.09 =	32.01 + 0.9 =	32.01 + 9 =	_
			1
			1
			1
			_
Given that	Given that	Given that	
$37 \times 84 = 3108$	$799 \div 17 = 47$	34567 – 13579 = 20988	
			_
		What is	1
		13579 + 20988 =	
			1
Use this answer to find	Use this answer to		
3108 ÷ 37 =	find		1
	799 ÷ 47 =		
and	177 -		
			1
3108 ÷ 8.4 =		and	1
		and	4
	and	34.567 – 20.988 =	1
and	79900 ÷ 47 =		
31083108 ÷ 84 =			
			1
			1

Write these three quantities in order of size, starting with the largest first. $\frac{1}{6}$, 0.15, 20%	What is 10% of £60 Use your answer to write down $3\frac{1}{3}$ % of £60	Find four ninths of 963p	Do not write in this box 2 1 2
			2
A school has 995 pupils. If there are 7 less girls than boys, how many boys are there in the	 2/5 of the children in a class are boys. There are 12 girls in the class. How many boys are there? 	Write down a <u>fraction</u> between 0.8 and 0.9	2
school?	, v	Write down a <u>decimal</u>	2
		between $\frac{2}{5}$ and $\frac{1}{2}$	1
			1
Which of these decimals is the smallest and which is the largest?	What are the next two numbers in these series? 2, 5, 7, 12, 19,	Which of these fractions is the smallest and which is the largest?	2
0.7, 0.706, 0.76, 0.759, 0.079		$\frac{1}{3}, \frac{2}{5}, \frac{3}{8}, \frac{7}{20}, \frac{4}{11}$	2
	100, 81, 64, 49, 36,	Smallest =	2
Smallest = Largest =	,	Largest =	1 1
What fraction of this flag has been shaded? Give the fraction as simply as	Shade in seven twelths of the flag below.	In the three digit number below the last two digits have been	
possible.		hidden	2
		6**	2
		The three digit number is divisible by 3, 5 and 7. What is the number?	2
		6	

A ruler costs x pence and a pen costs y pence. Which of the statements below represents the cost of 4 pens and 6 rulers? Circle your answer	When you add up two numbers you get 35, but when you subtract the two numbers you get 13. What are the two numbers?	Work out, simplifying your answer if possible $\frac{3}{8} - \frac{1}{24}$	Do not write in this box 1
·			3
6x+4y			
6y+4x			
10(x+y)			
Change these fractions into decimals. $\frac{1}{5} = \dots $	cinema sells 2140 ticke	e screening of a new film a ets. sells 320 less tickets than	3
<u>1</u> = 500	second week.	lls 210 less tickets than the sold over the three weeks?	
<u>7</u> = 500			3
A boy has to be in school by	Here are some number	r cards	
8.35am. It takes him 25 minutes to get washed and dressed, 15 minutes to eat breakfast and then 18	7 5	3 2 3	2
minutes to walk to school. What is the latest time that he should get out of bed?	Using each card once of possible even number	only make the smallest	2
	Using each card once of possible multiple of 6	only make the smallest	2
	Using each card once of close as possible to 400	only make a number as	2

	Do
	not write
	in
	this box
	DOA
СОАСН	
WALK	
45°	
CAR	
CIR	
TED A IN	
TRAIN	
The pie chart above shows the result of a survey on the ways in which pupils	
travelled to school.	
What percentage of pupils travelled had a coach?	1
	•
••••••	
What fraction of pupils walked to school?	1
	_
••••••	
It was found that 12 walked to school.	
How many pupils took a car to school?	
	2
••••••	_
How many pupils did not catch the train to school?	
	2
	_
How many pupils were in the survey?	2
	4

In the following questions fill in the missing number. You can only use WHOLE numbers and you CANNOT USE the number1.

1		•••	.6
+ 2	,	5	8
_		3	

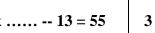
$$\frac{\dots - 6}{6} = 6$$

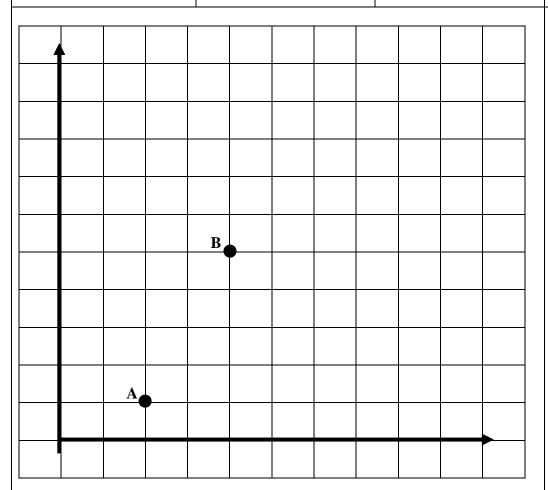
not write in this box 3

Do

$$\frac{40}{+5} = 5$$

$$(.....+7) \div 9 = 9$$





On the axes above the point A is (2,1).

(a) What are the coordinates of B?

(b) Mark on the point C which has coordinates (6,4)

1

(c) If a fourth point D is plotted and ABCD makes a rectangle, what are the coordinates of D?

2

Look at the pattern below	v		Do
	40 04	TOTAL	not write
Row 1	19 × 21	$= 399 = 20 \times 20 - 1 \times 1$	in this
Row 2	18 × 22	$= 396 = 20 \times 20 - 2 \times 2$	box
Row 3	17 × 23	$= 391 = 20 \times 20 - 3 \times 3$	
Row 4	16 × 24	$= 384 = 20 \times 20 - 4 \times 4$	
Fill in on the dotted line l	below Row 5		
Row 5	•••••		2
Which row will have a to	tal of 300?		
What is the total of row 1	12?		1
		••••••	1
Now look at this second p	oattern		
SHAPE 1	2 3	> 5	
TOTAL 1	3 6	10 15	
Each total is obtained by	counting the numb	er of dots in the triangle.	
Draw a diagram for SHA	APE 6 and give its to	otal number of dots	
		TOTAL	2
Which SHAPE number v	vill have a total of 3	6?	
What is the total number	of dots of SHAPE		1
			1
I			l

Tom and Sarah are playing with number machines.

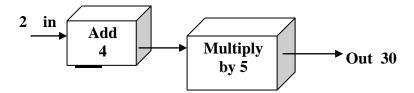
Tom's machine adds 4 to any number put into it and then multiplies the result by $\mathbf{5}$

Do not write in this

4

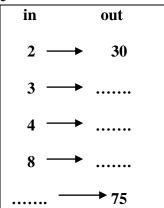
2

2

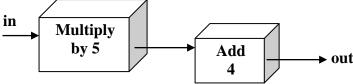


When he puts 2 in, out comes 30

Fill in the missing numbers for Tom's machine



Sarah's machine multiplies by 5 and then adds 4



If Sarah puts in the number 2, what number comes out?.....

If Sarah puts in the number 7, what number comes out?.....

They both put the same number into their machines.

If 45 comes out of Tom's machine what comes out of Sarah's?.....

If 19 comes out of Sarah's machine what comes out of Tom's?.....

THIS IS THE END OF THE EXAMINATION NOW GO BACK AND CHECK YOUR WORK