2010/3rd A Oundle School

Your Name:

Entrance Examination to the Third Form Mathematics

Section A 30 Minutes

Write ALL of your working on this paper. No other paper may be used. The answers alone <u>are of no use</u>. Show enough working on each question to make it clear how you reached your answer.

You are NOT allowed to use a calculator for this section <u>NO CALCULATORS</u>

1. Work out $\frac{6}{5} - \frac{7}{4}$	2. Find 273 × 1.06
Answer	Answer
3. Divide 1835 by 5	4. Calculate (38.6 + 15.1) × 3
Answer	Answer
5. Calculate each of the following	5
(a) 5 × -4	Answer
(b) $(5-8) \times -2$	Answer
(c) -6^2	Answer

	6.	If $x = -2$, $y = 4$, $z = -3$ find $xyz - 3x^2$
		Answer
7.	Calc	culate $3\frac{1}{3} \times 3\frac{1}{5}$
		Answer
8.	Con	tinue the patterns, giving the next two terms each time
	(a)	2, 3, 5, 7, 11, 13, 17,,
	(b)	$x, 2x + 3, 3x - 6, 4x + 9, \dots, \dots$
	(c)	2, 5, 10, 17, 26, 37,, ,
	(d)	36, 18, 12, 9, 6, 4,,
	(e)	20, 10, 5, 2.5,, ,

9.	Money in a bank account attracts interest at a rate of 5% per year. If I put £120 into this account, how much will it be worth after 2 years?
	Answer
10.	If I stack 1000000 bricks at a rate of 1 brick per second, roughly how many days will it take to finish the task?
	Answer
11.	Work out $\frac{3}{8} \times \frac{4}{3}$ as a fraction in its lowest terms
	Answer

12.	6 men take 8 days to dig a hole. How long does it take		
	(a)	3 men to dig 1 hole	
			Answer
	(b)	2 men to dig 1 hole	
			Answer
	(c)	2 men to dig 7 holes	
			Answer
13.	Two of the 3 angles in a triangle are 38.1° and 84.6°. What is the value of the third angle?		
	UI UI		
			Answer
			2 11 10 YV C1

14. The mean (average) height of 4 girls is 1.63 m. What is the total height of the 4 girls?

Answer.....

15. How many different ways can you arrange the letters in the following word?

ROBIN

(you should show your method very clearly as we are more interested in HOW you did the problem than your answer!)

2010/3rd B

Oundle School

Entrance Examination to the Third Form Mathematics

Section B 30 Minutes

Write **ALL** of your working on this paper. No other paper may be used. The answers alone <u>are of no use</u>. Show enough working on each question to make it clear how you reached your answer.

Your Name:

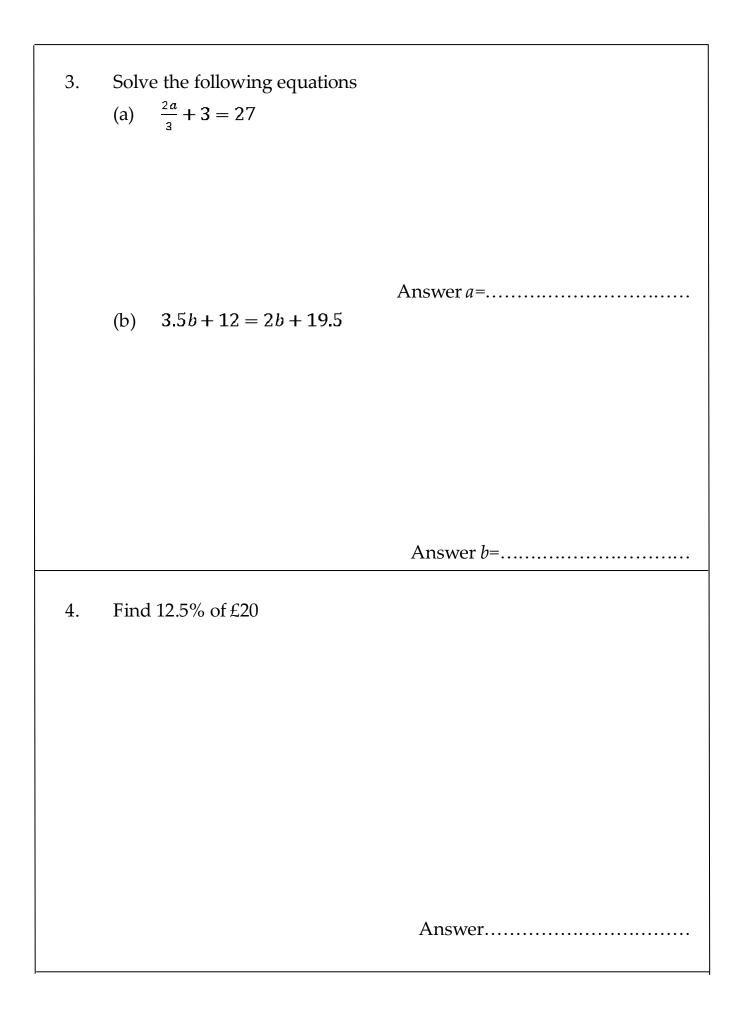
You MAY use a calculator for this section <u>CALCULATORS ALLOWED</u>

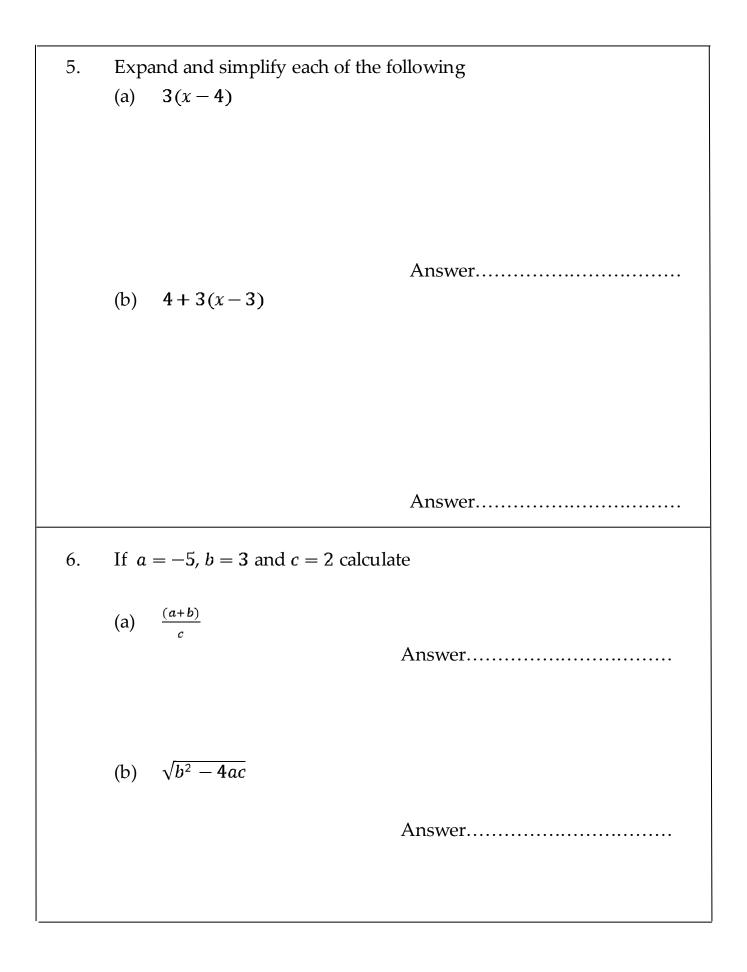
1. A ferry carries cars and lorries. For every 3 cars there are 20 lorries. If there are 483 cars and lorries on board in total, how many cars are there on the ferry?

Answer.....

2. Use your calculator to find the value of $\frac{27.8}{17.3-8.16}$. Write down all of the figures on your calculator display.

Answer.....





7.	What is the largest whole number that is a factor of both 64 and 160?		
	A		
	Answer		
8.	If I score 38 out of 75 in a Mathematics test, what percentage did I score? Give your answer correct to one decimal place.		
	Answer		
9.	Find the mean (average) of the following numbers, giving your		
	answer to 1 decimal place.		
	4.9 5.1 5.3 7.7 8.5 10.5		
	Answer		

