REIGATE GRAMMAR SCHOOL

13+ Entrance Examination 2018
MATHEMATICS

Paper 1

Non-Calculator Paper
Time Allowed: 30 minutes

Name: ....

- Calculators are **NOT** allowed.
- Work through the paper carefully.
- Do not spend too much time on any single question.
- Show any working clearly in the spaces provided – marks may be lost if there is not enough working.
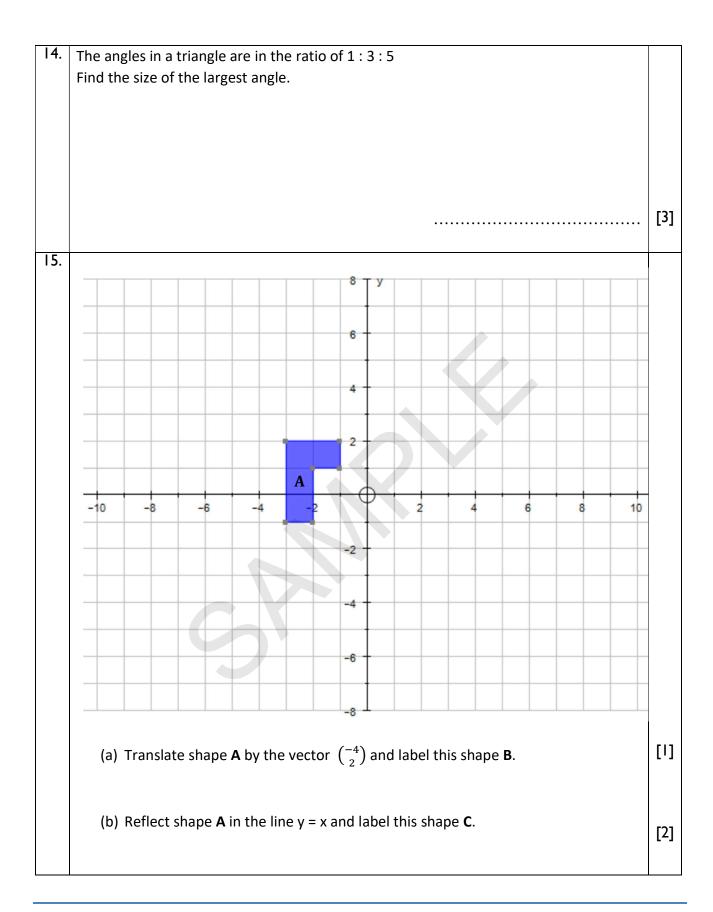- **You do not have to finish everything**.

Total Marks Available = 40

Page	2	3	4	5	6	Total
Marks						
Out of	7	10	8	9	6	40

1. Complete the following table, leaving your answers in their simplest form:

Fraction	Decimal	Percentage
	0.24	
		65%
$\dfrac{21}{25}$		

[3]

2. What is the value of:

$$\frac{(2^3 + 4)^2}{\sqrt{4^2 - 7}}$$

………………………………… [2]

3. It is given that 63 x 244 = 15372
What are the results of the following?

(a) 15372 ÷ 63

………………………………… [1]

(b) 15372 ÷ 122

………………………………… [1]

~ 2 ~

4.	(a) What are the next two terms in the sequence:	
	13 10 7 4 … … … … … …	[2]
	(b) Write down an expression for the nth term of this sequence.	
	……………………………………	[2]
	(c) What will be the 100ᵗʰ term in this sequence?	
	……………………………………	[2]
5.	What is 23% of 64?	
	……………………………………	[3]
6.	What is the largest number that divides exactly into 57, 76 and 114?	
	……………………………………	[1]

7.	Put these three quantities in order of size, from smallest to largest. You must show your working out.	
	$\frac{1}{5}$ 0.19 0.21%	
	………………… < …………………………… < …………………………… Smallest Largest	[2]
9.	Aaron is 24 years old. Ben is $\frac{2}{3}$ of Aaron's age. Cameron is $\frac{3}{8}$ of Aaron's age. What is their total age?	
	………………………………	[3]
10.	Calculate: 0.47 x 3.9	
	………………………………	[3]

11.	What fraction is half way between $\frac{1}{7}$ and $\frac{1}{9}$?	
	....	[2]

12.	Work out the following, making sure to show all of your steps and giving your answer in it's simplest form.	
	(a) $2\frac{2}{3} - 1\frac{5}{7}$	
	....	[3]
	(b) $2\frac{1}{4} \div \frac{5}{8}$	
	....	[3]

13.	What number could replace ■ so that the value of $\frac{\blacksquare}{6}$ lies between 3 and 4?	
	....	[1]

14.	The angles in a triangle are in the ratio of 1 : 3 : 5 Find the size of the largest angle.	
	....	[3]

15.		
	(a) Translate shape **A** by the vector $\begin{pmatrix} -4 \\ 2 \end{pmatrix}$ and label this shape **B**.	[1]
	(b) Reflect shape **A** in the line y = x and label this shape **C**.	[2]

END OF TEST