

# REIGATE GRAMMAR SCHOOL

## Entrance Examination MATHEMATICS

Time: 30 minutes  
Non-Calculator Sample

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

Pages	3	4	5	6	7	8
Marks						

Sample



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1) It is given that  $41 \times 271 = 11111$   
What are the results of the following?

a)  $11111 \div 41$

b)  $99999 \div 123$  ..... [1]

..... [1]

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2) Put these three quantities in order of size, smallest to largest.

0.35%

0.42

$\frac{2}{5}$

..... < ..... < .....

[2]

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3)

a) What is 10% of £90?

..... [1]

b) Use this answer to find 35% of £90?  
Show stages of your working.

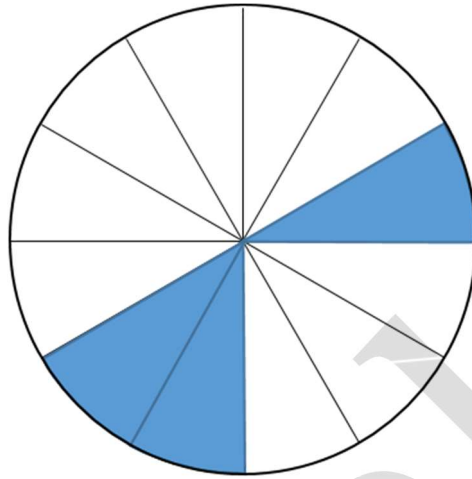
..... [3]



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4)

a) What fraction of this shape is shaded in its simplest form?



b) What is this fraction as a decimal?

.....[2]

c) What is this fraction as a percentage?

.....[1]

d) How many more sections need to be shaded in order to fill  $\frac{2}{3}$  of this shape?

.....[1]

.....[1]



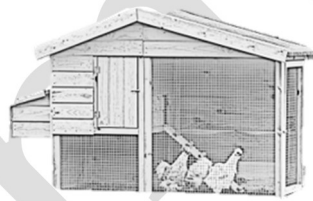
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- 5) Hubert is 15 years old. Harry is four times as old as Hubert. Harriet is  $\frac{1}{3}$  of Harry's age.  
What is their total age?

.....[3]

- 
- 6) A farmer owns a brood of hens, and would like to purchase a new style of chicken coop for them.  
These are the three options:



Room for 4 Chickens



Room for 6 Chickens



Room for 7 Chickens

The farmer could choose any one of these coop styles and be able to house all of his chickens exactly.

What is the least number of chickens in the farmer's brood?

.....[2]



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7) What is the value of  $4.5 \times 5.5 + 4.5 \times 4.5$ ?

.....[2]

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8) What are the next two numbers in the following series;

a)

3      9      27      81      .....      .....

[2]

b)

1      2      3      5      8      13      .....      .....

[2]

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9) What fraction is half way between  $\frac{1}{4}$  and  $\frac{1}{6}$ ?

.....[2]

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10) What is  $7102 - 2017$ ?

.....[1]



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11) What number could replace  $\spadesuit$  so that the value of  $\frac{\spadesuit}{5}$  lies between 3 and 4?

.....[2]

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12) What is the value of 25% of 60, plus 60% of 25, plus 50% of 11?

.....[4]

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13) What two whole numbers have a difference of 7 and add up to 35?

.....[3]

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14) By showing all steps of your working prove that  $\frac{1}{4} + \frac{3}{20} = \frac{2}{5}$

[2]



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15) Add the following together, giving your answer as a DECIMAL.

20%

1.47

$\frac{3}{5}$

.....[3]

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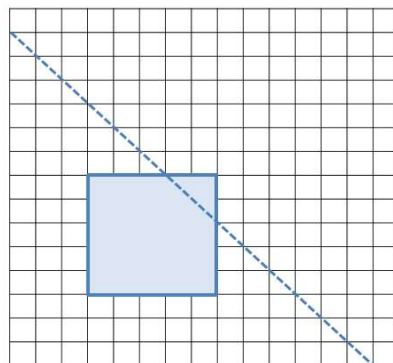
16) What is the biggest number that divides exactly into 39, 91 and 52?

.....[1]

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17)

a) In the diagram below, draw the reflection of the square in the dotted line:



[2]

b) The original image and its reflection create a new polygon.  
What is the name of this polygon?

.....[1]





Sample

