Name:

OUNDLE
School

2017 Non Common Entrance
Third Form Entry

Mathematics

Time Allowed: 60 minutes

Instructions

- **Calculators are NOT permitted**
- Write ALL your working and answers on this paper. Show enough working on each question to make it clear how you reached your answer.
- Do not spend too long working on any particular question. Do not worry if you do not manage to complete every question.
- You may work in pen or pencil.

Question 1

(a) A car is 3.28 metres long. A trailer is 1.86 metres long.
What is the combined length?

Answer ……

(b) A pallet of bricks contains 648 bricks.
Calculate he number of bricks in 37 pallets.

Answer ……

(c) One kilogram of carrots cost £1.79.
What does 0.37 kilograms of carrots cost (to the nearest pence)?

Answer ……

(d) There are 0.907 metres in 1 yard. How many metres are there in 0.026 yards?

Answer ……

(e) The total length of seven cars is 22.19 metres. What is the average length of these cars?

Answer ……

(f) Work out $11 + 39 \div 13 - 5 \times 3$

Answer ……

(g) 67% of all pencils manufactured are never used up.
In a bulk pack of 3490 pencils, how many will not be used up?

Answer ……

Question 2

(a) Calculate two thirds of five and a quarter.

Answer ……

(b) Add five eighths to three quarters.

Answer ……

(c) Four cakes are divided equally amongst seven people. One fifth of a cake is left over.
What fraction of a cake does each person get?

Answer ……

(d) Write down a fraction between nine fifths and two.

Answer ……

Question 3

If $a = 11$, $b = -3$ and $c = -6$, find the value of the following expressions

(a) abc

Answer ……

(b) bc^2

Answer ……

(c) $3a - 2b - 4c$

Answer ……

Question 4

How many different 3-digit whole numbers can be formed using the digits 4, 7 and 9, assuming that no digit can be repeated in a number?

Answer ……

Question 5

For the questions below, form an equation from the given information and solve it to find the answer.

(a) I think of a number, add five and then divide by two. My answer is −17.
What number was I thinking of?

Answer ……

(b) Twice a number added to half of the same number gives 90.
What was the number?

Answer ……

(c) When two is added to twice the square of a number, the result is 100.
What are the two possible starting numbers?

Answer ……

(d) When three tenths of a number is subtracted from ninety-five hundreds of the same number, the result is 1.95.
What was the original number?

Answer ……

Question 6

Calculate 7% of seven plus 9% of nine.

Answer ……

Question 7

In a triangle, one of the angles is 45 degrees. The other two angles in the triangle are in the ratio 4 : 5.
How big is the largest angle in the triangle?

Answer ……

Question 8

When three consecutive odd numbers are multiplied together, the result is 9177.
What is the sum of the numbers?

Answer ……

Question 9

A bicycle at Store P costs $200. The regular price of the same bicycle at Store Q is 15% more than it is at Store P. The bicycle is on sale at Store Q for 10% off of the regular price.
What is the sale price of the bicycle at Store Q?

Answer ……

Question 10

A set of five different positive integers has a mean (average) of 20 and a median of 18.
What is the greatest possible integer in the set?

Answer ……

Question 11

A palindrome is a positive integer that is the same when read forwards or backwards.
The numbers 101 and 4554 are examples of palindromes.
Calculate the ratio of the number of 4-digit palindromes to the number of 5-digit palindromes.

Answer ……