1. Find $329 \times 17$

2. Work out $\frac{5}{12} + \frac{2}{3}$

3. Work out $\frac{4}{15} \times \frac{5}{12}$

4. Divide 3368 by 8
5. Calculate \( 43.9 + (12.1 \times 4) \)

6. Continue the patterns, filling in the next two terms each time

(a) \( 6, 11, 16, 21, \ldots, \ldots \)

(b) \( x, 2x^2, 4x^3, 8x^4, \ldots, \ldots \)

(c) \( 21, 16, 13, 12, 13, 16, \ldots, \ldots \)

(d) \( 3, 12, 27, 48, \ldots, \ldots \)

(e) \( 81, 27, 9, 3, \ldots, \ldots \)

7. Fill in \(+ - \times \div (\ )\) to make the equations below correct:

(a) \(7 \quad 2 \quad 3 = 11\)

(b) \(5 \quad 3 \quad 2 = 11\)

(c) \(4 \quad 4 \quad 3 = 28\)

8. Work out

(a) \(6 \times -4 =\)

(b) \(2 - 10 - 3 =\)

(c) \(-12 + -4 =\)
9. If $x = 4$, $y = -2$, $z = -1$,
find the value of

(a) $xy = \phantom{1}$

(b) $x + y + z = \phantom{1}$

(c) $3y^2 = \phantom{1}$

(d) $3yz - y^3 = \phantom{1}$


11. A particular isosceles triangle has two angles of 17.9 degrees. What is the size of the other angle?

12. A female in the UK has an average life expectancy of 82 years. Approximately how many minutes is this?
13. 747 is a palindromic number as it reads the same from left to right as it does from right to left. How many palindromic numbers are there between 500 and 1000 inclusive?
2011/2nd B
Oundle School

Examination for Entrance to the Second Form
Mathematics

Section B
30 minutes

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

You MAY use a calculator for this section CALCULATORS ALLOWED

1. £1 can be exchanged for 1.5 Dollars. How many pounds can be exchanged for 430 Dollars? Give your answer to 2 decimal places.

Answer…………………………..

2. Use your calculator to find the value of \( \frac{7.21}{8.4 + 3.2} \)
Write down all of the figures on your calculator display.

Answer…………………………..
3. (a) I think of a number, multiply it by 7 and then subtract 4. The answer is 52. What was my number?

Answer: ................................

(b) I think of a number, multiply it by itself, add 3 and then halve it. The answer is 86. What was my number?

Answer: ................................

4. Find 14 % of 29 kg.

Answer: ........................................
5. What is the smallest whole number that is a factor (ie will divide into) 36 and 45 exactly?

Answer………………………

What is the smallest whole number that 36 and 45 will divide into exactly?

Answer…………………………

6. In a recent Maths examination paper which was marked out of 80, I scored 58 marks. What percentage is this?

Answer…………………………

7. What is the average of the numbers below:

\[
\begin{align*}
7.2 & \\
8.7 & \\
2.9 & \\
5.4 & \\
9.1 & \\
\end{align*}
\]

Answer…………………...
8. In a large box of 108 sweets there are just chocolates and toffees. If there are 5 chocolates for every 7 toffees, how many toffees are there?

Answer…………………………...

9. Find the missing numbers

...............× 2000000 = 56000

...............÷ 5 = 150

10. I walk along a road at a constant speed of 4.2 km per hour for three hours and then along another road at 3.2 km per hour for 15 minutes. Calculate how far I have walked in total.

Answer…………………………...
Use the three clues below to help you answer the last question.

\[
\begin{align*}
¥ + \Delta &= □ \\
¥ &= \Delta + ◦ \\
¥ + ¥ + \Delta &= □ + ◦ + ◦
\end{align*}
\]

\[\Delta = \text{How many } ◦\text{s?}\]