2011/2nd A
Oundle School

Your Name:

Entrance Examination to the Second Form — Section A
Mathematics — 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. Underline your answers.*

You are NOT allowed to use a calculator for this section. **NO CALCULATORS**

1. Find 329×17

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, ……. , …….

(b) $x,\ 2x^2,\ 4x^3,\ 8x^4,$ ……..… , …..…….

(c) 21, 16, 13, 12, 13, 16, ……. , …….

(d) 3, 12, 27, 48, ……. , …….

(e) 81, 27, 9, 3, ……. , …….

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

(a) 7 2 3 = 11

(b) 5 3 2 = 11

(c) 4 4 3 = 28

8. Work out

(a) $6 \times -4 =$

(b) $2 - 10 - 3 =$

(c) $-12 \div -4 =$

9. If $x = 4,\ y = -2,\ z = -1,$

find the value of

(a) xy =

(b) $x + y + z$ =

(c) $3y^2$ =

(d) $3yz - y^3$ =

10. Calculate 15% of 210.

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

Your name:

Examination for Entrance to the Second Form — Section B
Mathematics — 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:

7.2 8.7 2.9 5.4 9.1

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

……$\times 2000000 = 56000$

…….$\div \frac{1}{5} = 150$

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……

11. The symbols Δ ¥ □ ¤ represent numbers.

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

¥ + Δ = □

¥ = Δ + ¤

¥ + ¥ + Δ = □ + ¤ + ¤

Δ = How many ¤s?