Name:

OUNDLE
School

2015 Junior Entrance Examination
Second Form Entry

Mathematics

Time Allowed: 1 hour

No calculators allowed

Instructions

- Attempt all the questions
- All working and answers must be shown on this paper. Marks will be given for demonstrating your method
- Do not spend too long working on any particular question and do not worry if you do not manage to complete every question.
- You may work in pen or pencil.

1. Work out

(a) 3657 + 878

Answer …….

(b) 57 × 42

Answer …….

(c) 2002 ÷ 13

Answer …….

(d) 37% of 340

Answer …….

(e) $\frac{4}{9}+\frac{3}{7}$

Answer …….

(f) $2\frac{1}{3} \div 2\frac{3}{7}$

Answer …….

2. Calculate each of the following

(a) -6×-8

Answer …….

(b) $(2 - 6 \times 3) + 2$

Answer …….

(c) $1 - (1 - 1 - 1) - 1$

Answer …….

3. Continue the following patterns, filling in the next two terms for each.

(a) 4, 7, 10, 13, ……, ……

(b) 8.5, 6, 3.5, 1, ……, ……

(c) -15, -3, 9, 21, 33, ……, ……

(d) 0, 7, 26, 57, ……, ……

(e) x, $2x$, $4x$, $8x$, ……, ……

(f) x, $\frac{x^2}{2}$, $\frac{x^3}{4}$, $\frac{x^4}{8}$, $\frac{x^5}{16}$, ……, ……

4. If $x = 7$, $y = -5$ and $z = -4$, find the value of

(a) $x + y + z$

Answer …….

(b) xy

Answer …….

(c) $4y^2$

Answer …….

(d) $6yz - x^3$

Answer …….

5. Calculate the average (mean) of the numbers below:

87 32 76 33 97 17

Answer …….

6. (a) What is the largest whole number that is a factor of (i.e. will divide into) 78 and 117?

Answer …….

(b) What is the smallest whole number that 78 and 117 will divide into?

Answer …….

7. (a) What is 427 minutes in hours and minutes?

Answer …….

(b) Change 12.8 hours into minutes.

Answer …….

8. (a) I think of a number, then subtract ten. The result is thirty-seven.
What was the original number?

Answer ……

(b) I think of a number, multiply it by seven, then subtract nine. The result is minus two.
What was the original number?

Answer ……

(c) I think of a number, double it, then add five. The result is eight.
What was the original number?

Answer ……

9. The lengths of two sides of an isosceles triangle are 13cm and 5cm.
Find the perimeter of the triangle, explaining carefully why there is only one possible answer.

Answers ……

10. Write down the missing number in each of the following

(a) $2\,700 \times ? = 81\,000$

Answer: .....

(b) $2.7 \times ? = 81$

Answer: .....

(c) $8.1 \div ? = 27$

Answer: .....

11. (a) Calculate $178 \times 43 + 22 \times 43$ using an efficient method. Show working.

Answer: .....

(b) Calculate $267 \times 345 - 170 \times 345 + 3 \times 345$ using an efficient method. Show working.

Answer: .....

The exam is finished.
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