

Name:



OUNDLÉ

School

2020 Junior Entrance Examination
Second Form Entry

Mathematics

Time Allowed: 60 minutes

Instructions

- Attempt all questions.
- All working and answers must be shown on this paper. Marks will be given for demonstrating your method.
- Calculators are *not* permitted.

Question 1

- (a) During a sale, Amazon sells 636 items per second.
How many items is this per minute?

Answer [1]

- (b) Summer on Uranus lasts for 21 Earth years.
How many Earth days is this?

Answer [2]

- (c) Seaweed can grow up to 12 inches per day.
How many days will it take to grow to 480 cm long?
(1 inch = 2.5 cm)

Answer [2]

- (d) Interest is earned at a rate of 4% per year.
How much interest is earned on a starting balance of £1758, deposited for one year?

Answer [2]

- (e) Subtract three eighths from seven sixths.

Answer [2]

Question 2

Calculate each of the following

(a) $5 + 4 - 3 - 2$

Answer [1]

(b) $5 + 4 \div 3 - 2$

Answer [2]

(c) $4 - (2 - (1 - 2))$

Answer [2]

Question 3

If $x = -2$, $y = 3$ and $z = -1$, find the value of

(a) $x + y - z$

Answer [2]

(b) xz

Answer [2]

(c) $-2x^2$

Answer [2]

(d) $xy - z$

Answer [2]

Question 4

- (a) I think of a number, then subtract nine. The result is nineteen.
What was the original number?

Answer [2]

- (b) I think of a number, multiply it by four, then add four. The result is forty-two.
What was the original number?

Answer [2]

- (c) I think of a number, double it, then add nine. The result is negative three.
What was the original number?

Answer [2]

Question 5 Solve the following equations, giving your answers as whole numbers or fractions.

(a) $5x - 8 = 3x + 8$

Answer [2]

(b) $\frac{1}{2}x - 3 = 2x + 5$

Answer [2]

Question 6

In a bag of counters the ratio of blue to red to yellow counters is 5 : 9 : 3
There are 8 more blue counters than yellow counters.
How many counters are there all together?

Answer [2]

Question 7

A voucher code is made up of four characters. The first is a letter: V, X or P. The second and third are different digits. The fourth is the units digit of the sum of the second and third digits.
How many different voucher codes like this are there?

Answer [3]

Question 8

The total weight of a box, 20 plates and 30 cups is 4.8 kg.
The total weight of the box, 40 plates and 50 cups is 8.4 kg.
What is the total weight of the box, 10 plates and 20 cups?

Answer [3]

Question 9

The sum of the areas of the squares on the sides of a right-angled isosceles triangle is 72 cm^2 .
What is the area of the triangle?

Answer [3]

Question 10

Every day, Aimee goes up an escalator on her journey to work. If she stands still, it takes her 60 seconds to travel from the bottom to the top. One day the escalator was broken so she had to walk up it. This took her 90 seconds.

How many seconds would it take her to travel up the escalator if she walked up at the same speed as before while it was working?

Answer [3]