



OUNDLE

School

EXAMINATION PAPER

Junior Entry 2023

Mathematics

Time allowed: 1 hour

Name: _____

Instructions

- Calculators are **NOT** allowed.
 - 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.
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Question 1

- (a) Annie collects rocks. Her collection weighs a total of 13.5 kg. She finds two new rocks weighing 0.7 kg and 1.04kg.

What is the new total weight of her collection?

Answer

- (b) Burt is tiling his kitchen floor. He buys 27 boxes of tiles, each containing 24 tiles. When he has finished the floor he has 17 tiles left over.

How many tiles did Burt use in total?

Answer

- (c) Charles raises £345.81 to split equally between three charities.

How much does each charity receive?

Answer

- (d) Dana spends £153.17 on a new computer screen. She sees the same screen on sale for £137.85 a day later.

How much money could she have saved if she had waited?

Answer

Question 2 Work out the following, obeying the correct order of operations.

(a) $12 + 3 - 4 + 5$

Answer

(b) $12 + 3 \times 4 - 5$

Answer

(c) $12 \div 3 \div 4 + 5$

Answer

(d) $1 - (2 - 3) \times 45$

Answer

(e) $1 + (23 - 4 \times 5)$

Answer

(f) $20 \div (2 + 3) + 20 \times 23$

Answer

Question 3

Insert brackets to make the following statements correct:

(a) $4 + 4 \times 4 - 4 = 4$

(b) $4 \times 4 - 4 + 4 \div 4 = 11$

Question 4

Using the fact that $54 \times 321 = 17334$, write down the missing number in each part.

(a) $5.4 \times 3.21 = ?$

Answer

(b) $? \times 32.1 = 17.334$

Answer

(c) $1733.4 \div ? = 540$

Answer

(d) $108 \times 321 = ?$

Answer

(e) $17334 \div ? = 963$

Answer

Question 5

You have the numbers -4 , 8 , 7 and -2 available.

Any of these numbers can be used in **each** part of the question, but only once per part.

- (a) What is the greatest number that can be obtained by adding two of the above numbers?

Answer

- (b) What is the greatest number that can be obtained by subtracting two of the above numbers?

Answer

- (c) What is the least number that can be obtained by multiplying two of the above numbers?

Answer

- (d) By replacing the missing numbers, what is the greatest value of this calculation

$$? - ? \times ?$$

Answer

Question 6

- (a) Which fraction is bigger, $\frac{3}{7}$ or $\frac{5}{11}$?

Answer

- (b) Write down a fraction which is greater than $\frac{3}{11}$, but less than $\frac{4}{11}$.

Answer

- (c) Calculate $\frac{3}{5} + \frac{4}{15}$.

Answer

- (d) Calculate $\frac{2}{7} \times \frac{21}{40}$, remembering to simplify your answer.

Answer

- (e) What is the result if $1\frac{2}{3}$ is taken from 5 ?

Answer

Question 7

In this question you may use the grid below to help you answer the questions.

A straight line passes through the points (3,5) and (19,9).

(a) (i) The point (11, a) also lies on the line. Calculate the value of a .

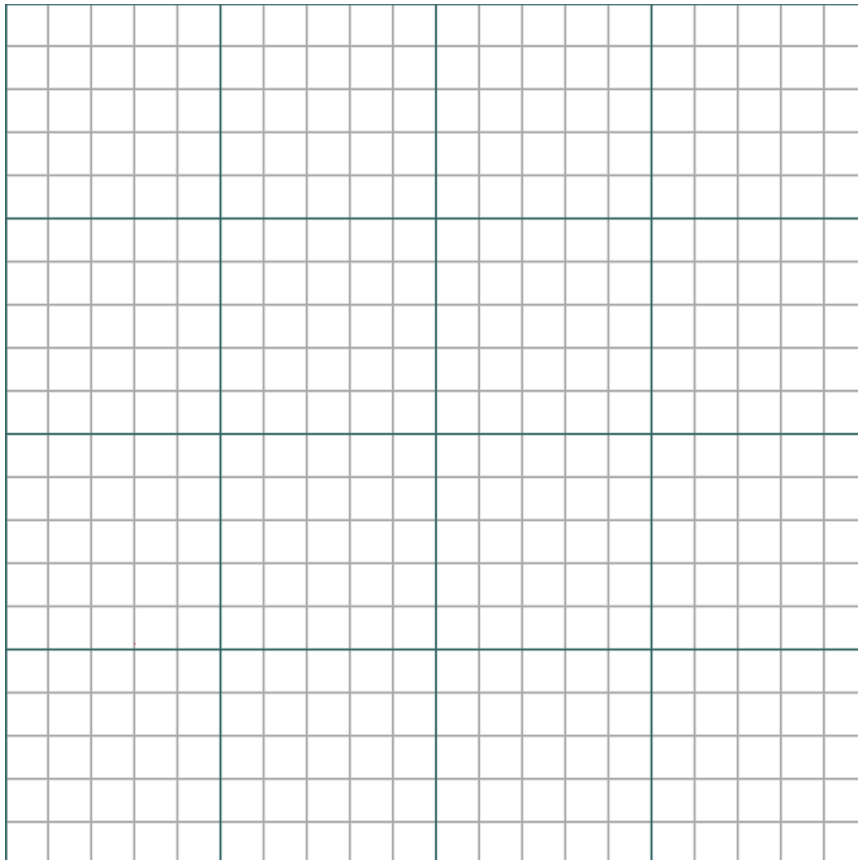
Answer

(ii) The point (b , 6) also lies on the line. Calculate the value of b .

Answer

(b) Another point (19,4) forms a triangle with (3,5) and (19,9). Find the area of the triangle.

Answer



Question 8

If it takes 4 builders 3 days to build a wall, how many identical walls could 10 builders build in 6 weeks?

Answer

Question 9

A shop sells pens for 30p each, or a box of 40 pens for £10. Calculate the percentage saving made when buying the pens in the box rather than individually.

Answer

Question 10

A school enters a maths competition. Three fifths of pupils are awarded certificates; the certificates are Gold, Silver and Bronze, awarded in the ratio 1:2:3.
If 24 of the pupils receive a Silver certificate, how many were originally entered?

Answer

Question 11

m and n are two *different, positive* whole numbers which make the following statement true

$$3m + 4n = 60$$

How many possible pairs of numbers make the statement above true?

Answer

Question 12

The symbol $\textcircled{\$}$ represents a mathematical operation between two numbers which works as follows:

add the product of the two numbers to their difference

ie. $5 \textcircled{\$} 7 = 5 \times 7 + 2$
 $= 37$

For each part, write down the missing value

(a) $4 \textcircled{\$} 9 = ?$

Answer

(b) $7 \textcircled{\$} ? = 25$

Answer

(c) $3 \textcircled{\$} (4 \textcircled{\$} 6) = ?$

Answer

(d) $? \textcircled{\$} (2 \textcircled{\$} 5) = 73$

Answer