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Answer ALL TWENTY FOUR questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1 (a) Write 0.63 as a fraction.

.....
(1)

(b) Write 46 821 correct to the nearest 100

.....
(1)

(c) Write 73.654 correct to 1 decimal place.

.....
(1)

(d) Write 0.09 as a percentage.

..... %
(1)

(Total for Question 1 is 4 marks)



- 2 Daniel has five bags of coloured sweets.
He picks at random a sweet from each bag.
The table shows the probability that the sweet he picks from each bag is red.

Bag	A	B	C	D	E
Probability of red	0.7	0.9	0.5	1	0.2

- (a) From which bag is Daniel least likely to pick a red sweet?

.....
(1)

- (b) Which bag contains only red sweets?

.....
(1)

- (c) From which bag is Daniel equally likely to pick a red sweet as a sweet of another colour?

.....
(1)

(Total for Question 2 is 3 marks)



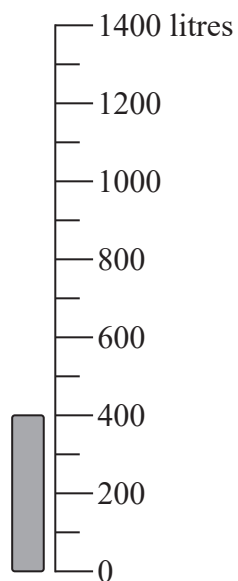
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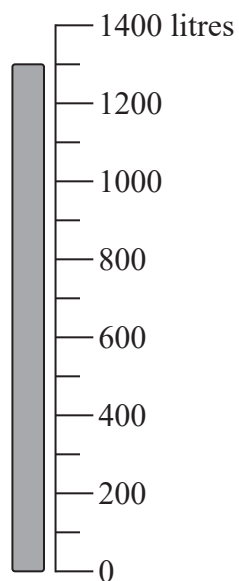
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- 3 Joseph buys some heating oil.
He puts it in his oil tank.

The scales show the numbers of litres of oil in the tank immediately before and immediately after Joseph puts the oil in the tank.



before



after

The oil Joseph buys costs 0.40 euros per litre.

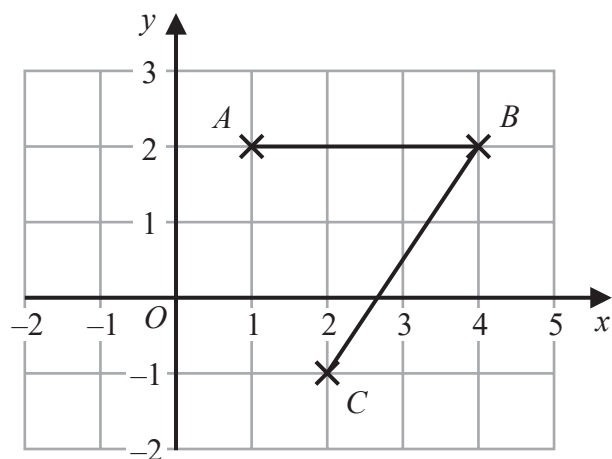
Work out the total cost of the oil that Joseph buys.

..... euros

(Total for Question 3 is 3 marks)



- 4 The diagram shows points A , B and C on a square grid.



- (a) Write down the coordinates of C .

(.....,)

(1)

- (b) Measure the length of BC .
Give your answer in centimetres.

..... cm

(1)

- (c) On the grid, mark with a cross (X) the point D so that $ABCD$ is a parallelogram.
Label this point D .

(1)

(Total for Question 4 is 3 marks)



5 (a) Write down a multiple of 8 that is between 20 and 50

.....
(1)

There is only one prime number that is an even number.

(b) Write down this number.

.....
(1)

Shreya says that 57 is a prime number.

(c) Is Shreya correct?
Give a reason for your answer.

.....
.....
(1)

(Total for Question 5 is 3 marks)



6 Here is a sequence of patterns made from dots.



Pattern
number 1



Pattern
number 2



Pattern
number 3

Pattern
number 4

(a) Draw Pattern number 4 in the space above.

(1)

(b) Complete the table.

Pattern number	1	2	3	4	5
Number of dots	4	8	12		

(1)

(c) Work out the number of dots in Pattern number 13

(2)

(d) Find an expression, in terms of n , for the number of dots in Pattern number n .

(1)

There are fewer than 90 dots in Pattern number k .

(e) What is the largest possible value of k ?

(2)

(Total for Question 6 is 7 marks)



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7 (a) Write $7 \times 7 \times 7 \times 7 \times 7$ as a power of 7

.....
(1)

(b) Show that 64 is both a square number and a cube number.

(2)

(c) Find the value of 11^3

.....
(1)

(d) Find the value of $\sqrt{98.01}$

.....
(1)

(Total for Question 7 is 5 marks)

8 (a) Find the value of $25 - 4g$ when $g = -3$

.....
(2)

(b) Expand and simplify $x(2x + 1) + 3(x - 2) + 7$

.....
(3)

(Total for Question 8 is 5 marks)

