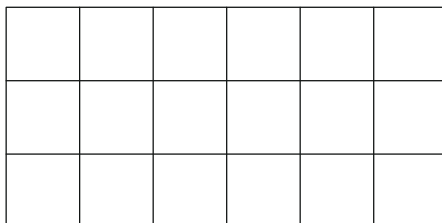


Question 1

- (a) Shade $\frac{2}{3}$ of this shape.



(1 mark)

- (b) Write $\frac{3}{5}$

- (i) as a decimal,
(ii) as a percentage.

(2 marks)

- (c) (i) Write down **thirty one thousand three hundred and two** in figures.

- (ii) Write down 13 820 to the nearest thousand.

(2 marks)

- (d) Explain how you would estimate 97×62 .

(2 marks)

Question 2

Tom buys the following items from a shop.

6 tins of baked beans at 18p each,
5 tins of cat food at 37p each,
2 packets of tea bags at £1.41 each.

(a) Work out the total cost of these items.

£
(3 marks)

Tom went into the shop at 09 53
He came out of the shop at 10 02

(b) For how many minutes was Tom in the shop?

..... minutes
(2 marks)

$\frac{4}{5}$ of the next 45 customers were women.

(c) Work out $\frac{4}{5}$ of 45.

(2 marks)

Question 3

The cost of 5 metres of wire is £3.

What is the cost of 8 metres of the same wire?

£
(2 marks)

Question 4

Kylie went to Paris.

She changed £200 into French francs.

The exchange rate was £1 = 9.60 French francs.

(a) Work out the number of French francs Kylie got.



.....French francs
(2 marks)

Kylie brought 25 French francs back from Paris.

The exchange rate was now £1 = 10 French francs.

(b) Work out how much Kylie got in pounds.

£.....
(2 marks)

Question 5

(a) Simplify

(i) $5q + 3q - 4q$

(ii) $c \times c \times c \times c \times c$

(iii) $3x \times 4y$

(3 marks)

(b) Multiply out

(i) $5(3h + 2)$

(ii) $-(3r - 4)$

(2 marks)

Question 6

This rule is used to work out take home pay.

$\text{Take home pay} = \text{hours worked} \times \text{hourly rate} - \text{deductions}$
--

Kirsty worked 17 hours.
Her hourly rate was £4.50.
Her deductions were £8.25.

(a) Work out her take home pay.

£
(2 marks)

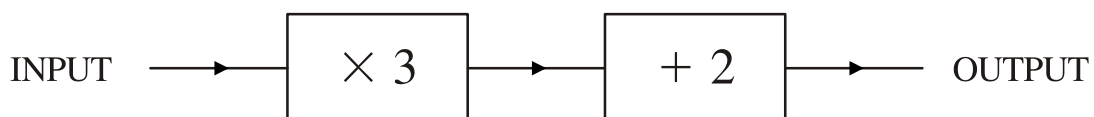
Mary's hourly rate was £5.
Her deductions were £7.
Her take home pay was £68.

(b) Work out the number of hours she worked.

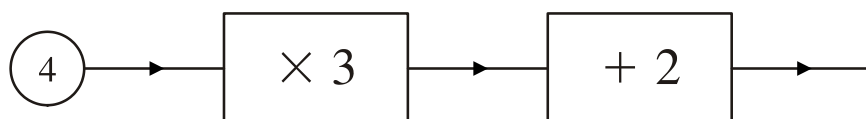
..... hours
(3 marks)

Question 7

The diagram shows a mathematical rule.

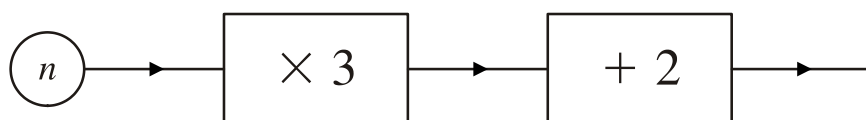


(a) Work out the output.



(1 mark)

(b) Write down an expression, in terms of n , for the output.



(1 mark)

(c) $y = 3x + 2$

(i) Find y when $x = 3$.

(ii) Find x when $y = 17$.

(3 marks)

Question 8



This rule is used to find how far apart to plant two bushes.

<p>Add the heights of the bushes Divide your answer by 3.</p>

Marie is going to plant two bushes.
The heights of the bushes are 46 cm and 20 cm.

- (a)** Use the rule to work out how far apart Marie should plant the bushes.

..... cm
(2 marks)

Ben is going to plant two different bushes.
He should plant them 50 cm apart.
The height of one of the bushes is 90 cm.

- (b)** Work out the height of the other bush. **(3 marks)**

The heights of two different bushes are a cm and b cm.
The two bushes should be planted d cm apart.

- (c)** Write down a formula for d in terms of a and b . **(3 marks)**

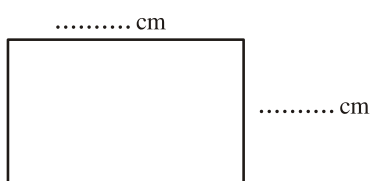
Question 9

Three different rectangles each have an area of 28 cm^2 .

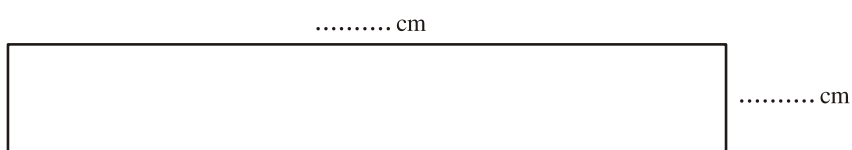
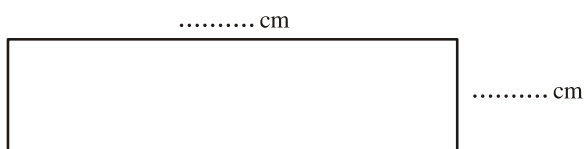
The lengths of all the sides are whole numbers of centimetres.

For each rectangle work out the length of the two sides.

Write your answers on the diagrams.



Diagrams **NOT**
accurately drawn.



(3 marks)

Question 10

Here are the first five numbers of a simple sequence.

2, 8, 14, 20, 26.

(a) Write down the next two numbers in this sequence. **(2 marks)**

(b) Write down, in words, the rule to continue this sequence. **(1 mark)**

Question 11

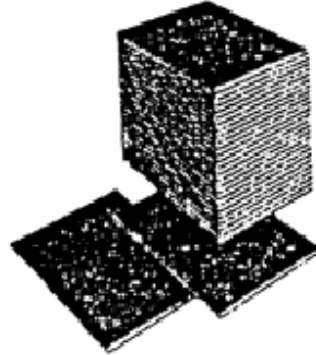
Simplify

(i) $a + a + a + a$

(ii) $4b + 2c + 3b - 6c$ **(3 marks)**

Question 12

There are 27 wall tiles in a pack.
Only full packs of tiles are sold.
A pack costs £9.72.



Barry needs 200 tiles.

- (a) (i) How many full packs of tiles must he buy?
(ii) Work out the total cost of these packs.

£
(4 marks)

Each tile is a rectangle 20 cm by 15 cm.

- (b) Work out the area of one tile.

..... cm²
(1 mark)

Navdeep wants to tile a wall.
The wall is a rectangle 3 metres by 2.4 metres.

- (c) Work out the number of tiles she needs to cover the wall completely.
(3 marks)

Question 13

Here is a number pattern,

3, 10, 17,,, 38

- (a) Write down the missing two numbers in the pattern. **(2 marks)**
- (b) Write down the rule you used to find the missing numbers. **(1 mark)**

Question 14

Lisa has £10 to buy some stamps.

Each stamp costs 28p.

Lisa buys the greatest number of stamps she can with the £10.

- (a) Work out how many stamps Lisa buys. **(2 marks)**
- (b) Work out how much change she should get.

..... p
(1 mark)

Question 15

- (a) $x = -4$
 $y = 5$

Work out the value of $3x + 2y$ **(2 marks)**

- (b) Simplify fully

$7p - 4(p - q)$ **(2 marks)**

Question 16

Mr Smith is buying a washing machine. He can buy the washing machine in cash or by using Credit Plan *A*.

<u>Cash Price</u> £380	<u>Credit Plan <i>A</i></u> 4 equal payments of £98.30
-------------------------------	--

Mr Smith buys the washing machine using Credit Plan *A*.

- (a) Work out the difference between the cost when he used Credit Plan *A* and the Cash Price.

£
(2 marks)

Mrs Dolan wants to buy a washing machine. She can buy the washing machine by using Credit Plan *B* or by using Credit Plan *C*.

<u>Credit Plan <i>B</i></u> A deposit of £135 plus 6 equal payments of $\frac{1}{8}$ of £380	<u>Credit Plan <i>C</i></u> A deposit of 20% of £380 plus 12 equal payments of £28.90
---	--

- (b) Work out the difference between the cost if she uses Credit Plan *B* and the cost if she uses Credit Plan *C*.

£
(7 marks)

Question 17

Complete the shopping bill.

3 bottles of Cola at £1.13 per bottle.	£
$2\frac{1}{2}$ kg of potatoes at 30p per kg.	£
Total	£

(3 marks)

Question 18

Work out

(i) $5 + (-2)$

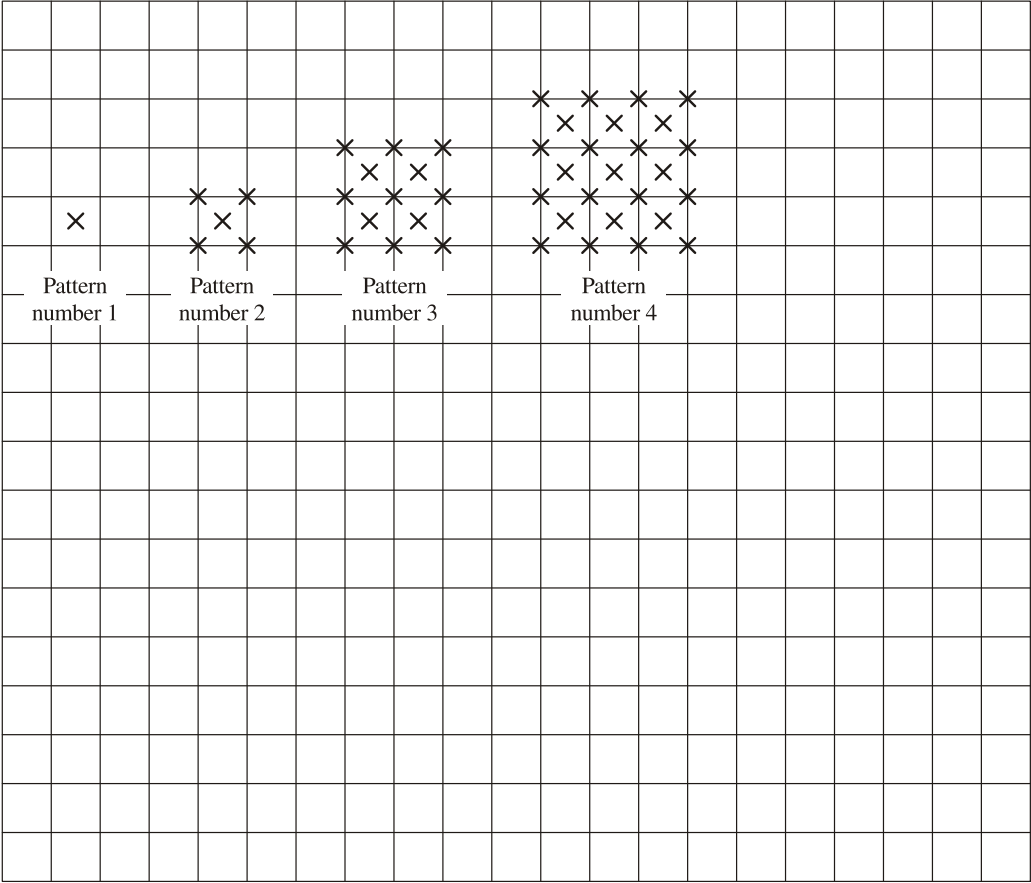
(ii) $-3 - (-5)$

(iii) $-4 - 7$

(3 marks)

Question 19

Here are some patterns made of crosses.



(a) Draw pattern number 5. (1 mark)

(b) Complete the table.

Pattern number	1	2	3	4	5
Number of crosses	1	5	13		

(1 mark)

(c) Work out the number of crosses in Pattern number 8. (2 marks)

Question 20

The table shows the numbers of pens brought to an examination by a class of students.

Number of pens	Number of students
0	2
1	8
2	8
3	7
4	4
5	1

Work out the total number of pens brought to this examination by these students.

(3 marks)