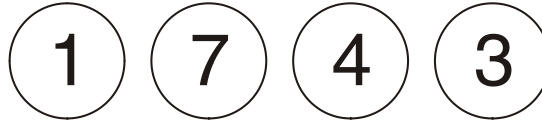


Question 1

The diagram shows four discs with numbers on.



The number shown here is 1743.

(a) Using all these four discs only, write down

- i) the **largest** number you could make,
- ii) the **smallest** number you could make,
- iii) the missing numbers in this problem.

(4 marks)

$$\bigcirc \bigcirc = 2 \times \bigcirc \bigcirc$$

Another different disc is needed to complete the problem below.

(b) Write the missing number on the empty disc.

(1 mark)

$$\bigcirc 1 \bigcirc 7 \bigcirc 4 \bigcirc 3 \times 10 = \bigcirc 1 \bigcirc 7 \bigcirc 4 \bigcirc 3 \bigcirc$$

Here is another disc



The number on this disc is doubled. Then 3 is added.

The answer is then 15.

(c) What is the number on this disc?

(1 mark)

Question 2

Powder can be mixed with water to make a milk drink.

This rule is used:

$$\text{number of spoonfuls} = \text{amount of water (ml)} \div 30$$

A glass contains 180 ml of water.

(a) How many spoonfuls are needed?

(1 mark)

There are 20 spoonfuls of powder in a jug.

(b) How much water is needed?

(2 marks)

Question 3

$$C = 180R + 2000$$

The formula gives the capacity, C litres, of a tank needed to supply water to R hotel rooms.

$$R = 5.$$

(a) Work out the value of C .

$$C = \dots\dots\dots \quad \quad \quad \textbf{(2 marks)}$$

$$C = 3440$$

(b) Work out the value of R .

$$R = \dots\dots\dots \quad \quad \quad \textbf{(2 marks)}$$

A water tank has a capacity of 3200 litres.

(c) Work out the greatest number of hotel rooms it could supply **(3 marks)**

Question 4

Lindi thought of a number.

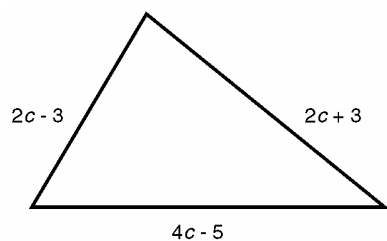
She multiplied the number by 5.

Her answer was 30.

What number did Lindi think of?

Question 5

The perimeter of this triangle is 31 cm.



Work out the value of c .

Question 6

(a) Solve $3x = 24$

(b) Solve $18 + 3y = 6 - y$.

Question 7

Solve the following equations:

i) $3p + 5 = 29$

ii) $5(q - 3) = 25$

iii) $6r - 5 = 7 - 2r$

Question 8

Solve the equations

a) $3y + 7 = 28$

b) $2(3p + 2) = 19$

Question 9

$$P = 2l + 2w$$

$$l = 12 \text{ and } w = 8$$

Work out the value of P .

(2 marks)

Question 10

Ian thought of a number.

He doubled his number and added 5.

His answer was 19.

What number did Ian think of?

(2 marks)

Question 11

Solve

(a) $3x = 15$

(1 mark)

(b) $4y + 6 = 26$

(2 marks)

(c) $3(z - 4) = 30$

(2 marks)

Question 12

- (a) Solve the equation $2x = 10$.
 $x = \dots\dots\dots$ (1 mark)
- (b) Solve the equation $6y + 1 = 25$.
 $y = \dots\dots\dots$ (2 marks)
- (c) Solve the equation $8p - 3 = 3p + 13$.
 $p = \dots\dots\dots$ (2 marks)

Question 13

- (a) Solve $3p + 7 = 34$ (2 marks)
- (b) Solve $3(2q - 5) = 36$ (2 marks)
- (c) Solve $5r + 6 = 2r - 15$ (2 marks)

Question 14

- (a)** Solve the equation

$$x + 4 = 12$$

$$x = \dots\dots\dots$$

(1 mark)

- (b)** Solve the equation

$$2y = 14$$

$$y = \dots\dots\dots$$

(1 mark)

- (c)** Solve the equation

$$4r - 1 = 7$$

$$r = \dots\dots\dots$$

(2 marks)

- (d)** Solve the equation

$$7s + 2 = 5 - 3s$$

$$s = \dots\dots\dots$$

(2 marks)