



Name: _____ **Date:** _____ **Score:** _____ / 55

- 1** a and b are two numbers in the ratio $a : b = 3 : 5$

$$b - a = 12$$

Work out the value of a and the value of b .

(3 marks)

Answer _____

- 2** The ratio $x : (x + 4)$ is equal to $3 : 5$

Work out the value of x .

(3 marks)

Answer _____

- 3** A bag contains only red, blue and yellow counters.

The numbers of red, blue and yellow counters are in the ratio $2 : 3 : x$.

A counter is taken at random from the bag.

The probability that it is yellow is $\frac{2}{7}$.

Work out the value of x .

(3 marks)

Answer _____

- 4** A jar contains only red sweets and green sweets.

The ratio of the number of red sweets to the number of green sweets is $4 : 3$.

Show that the total number of sweets in the jar must be a multiple of 7.

(3 marks)

Answer _____

5 Zainab, Yusuf and Ola share £720 in the ratio 5 : 3 : 4

- Work out how much Zainab gets.
- Yusuf gives one third of his share to Ola. Write down the new ratio of the amounts that Zainab, Yusuf and Ola have, in its simplest form.
- Work out the new amount that Ola has as a percentage of the £720. Give your answer correct to 1 decimal place.

(5 marks)

Answer _____

6 The ratio $(2x + 1) : (x + 5)$ is equal to 3 : 2

Work out the value of x .

(3 marks)

Answer _____

7 The ratio of the amount of money Amy has to the amount Ben has is 5 : 3.

Amy gives Ben £14.

The ratio of the amount Amy has to the amount Ben has is now 6 : 5.

Work out how much money Amy had at first.

(4 marks)

Answer _____

8 The ages of a mother and her daughter are in the ratio 7 : 2

In 5 years' time, the ratio of their ages will be 8 : 3

Work out how old the mother and daughter are now.

(4 marks)

Answer _____

9 The cost of a pencil and the cost of a ruler are in the ratio 2 : 5.

Priti buys 3 pencils and 2 rulers for a total of £3.20.

Work out the cost of a ruler.

(4 marks)

Answer _____

10 The ratio of the amount of money Priya has to the amount of money Quinn has is 7 : 5.

Priya gives Quinn £18.

Now they each have the same amount of money.

Work out how much money Priya had originally.

(4 marks)

Answer _____

11 A box contains red counters and blue counters.

If 5 more red counters are put in the box, the ratio of red to blue will be 2 : 3.

If instead 5 more blue counters are put in the box, the ratio of red to blue will be 1 : 2.

Work out how many counters of each colour are in the box.

(5 marks)

Answer _____

12 a and b are positive numbers such that

$$a^2 + 6b^2 = 5ab$$

Find the possible values of the ratio $a : b$.

(5 marks)

Answer _____

13 A box contains only red counters, blue counters and green counters.

The number of blue counters is twice the number of red counters.

The number of green counters is 9 more than the number of red counters.

There are 49 counters in the box altogether.

Work out the ratio of red counters to green counters. Give your answer in its simplest form.

(5 marks)

Answer _____

- 14 In a box, the ratio of the number of red counters to the number of blue counters is 4 : 7.
12 more red counters are put into the box.
The ratio of the number of red counters to the number of blue counters is now 2 : 3.
Work out the number of blue counters in the box.

(4 marks)

Answer _____

End of questions | Total 55 marks