

N175 Ratio 3

Q1.

Anna and Bill share some money in the ratio 2 : 5

Anna gets £ A

Bill gets £ B

Carl and Donna share twice as much money as Anna and Bill share.

They share the money in the ratio 3 : 1

Carl gets £ C

Donna gets £ D

Find $A : B : C : D$

Give your answer in its simplest form.

.....
(Total for question = 3 marks)

Q2.

Tom and Adam have a total of 240 stamps.

The ratio of the number of Tom's stamps to the number of Adam's stamps is 3 : 7

Tom buys some stamps from Adam.

The ratio of the number of Tom's stamps to the number of Adam's stamps is now 3 : 5

How many stamps does Tom buy from Adam?

You must show all your working.

.....
(Total for question = 4 marks)

Q3.

A group of people went to a restaurant.
Each person chose one starter and one main course.

starter	main course
soup	lasagne
prawns	curry

the number of people who chose soup : the number of people who chose prawns = 2 : 3

Of those who chose soup,

the number of people who chose lasagne : the number of people who chose curry = 5 : 3

Of those who chose prawns,

the number of people who chose lasagne : the number of people who chose curry = 1 : 5

What fraction of the people chose curry?

You must show how you get your answer.

.....
(Total for question = 4 marks)

Q4.

Only blue vans and white vans are made in a factory.

The ratio of the number of blue vans to the number of white vans is 4 : 3

(a) Write down the fraction of vans that are blue.

.....
(1)

For blue vans,

the number of small vans : the number of large vans = 3 : 5

(b) Work out the fraction of the number of vans made in the factory that are blue and large.

.....
(3)

(Total for question = 4 marks)

Q5.

On a farm

the number of cows and the number of sheep are in the ratio 6 : 5
the number of sheep and the number of pigs are in the ratio 2 : 1

The total number of cows, sheep and pigs on the farm is 189

How many sheep are there on the farm?

.....

(Total for question = 3 marks)

Q6.

The points A , B , C and D lie in order on a straight line.

$$AB : BD = 1:5$$
$$AC : CD = 7:11$$

Work out $AB : BC : CD$

..... : :

(Total for question = 3 marks)

Q7.

Given that

$$a : b = 8 : 5 \quad \text{and} \quad b : c = 3 : 4$$

find the ratio

$$a : b : c$$

Give your answer in its simplest form.

.....
(Total for question = 3 marks)

Q8.

There are only blue pens, green pens and red pens in a box.

The ratio of the number of blue pens to the number of green pens is 2 : 5

The ratio of the number of green pens to the number of red pens is 4 : 1

There are less than 100 pens in the box.

What is the greatest possible number of red pens in the box?

.....
(Total for question = 3 marks)

Q9.

In a village

the number of houses and the number of flats are in the ratio 7 : 4

the number of flats and the number of bungalows are in the ratio 8 : 5

There are 50 bungalows in the village.

How many houses are there in the village?

.....
(Total for question = 3 marks)

Q10.

There are some small cubes and some large cubes in a bag.
The cubes are red or the cubes are yellow.

The ratio of the number of small cubes to the number of large cubes is 4 : 7

The ratio of the number of red cubes to the number of yellow cubes is 3 : 5

(a) Explain why the least possible number of cubes in the bag is 88

.....
.....
.....

(1)

All the small cubes are yellow.

(b) Work out the least possible number of large yellow cubes in the bag.

.....
(3)

(Total for question = 4 marks)

Q11.

Given that

$$(x + 2) : 2 = (6x - 8) : x$$

find the possible values of x .

.....
(Total for question = 5 marks)

Q12.

The ratio $(y + x) : 2x$ is equivalent to $k : 1$

Show that $y = x(2k-1)$

(Total for question = 3 marks)

Q13.

Given that

$$a : b = 8 : 5 \quad \text{and} \quad b : c = 3 : 4$$

find the ratio

$$a : b : c$$

Give your answer in its simplest form.

.....
(Total for question = 3 marks)

Q14.

Given that

$$x^2 : (2x + 6) = 2 : 1$$

find the possible values of x .

.....
(Total for question = 4 marks)