



- 1 Write down the ratio 20 : 35 in its simplest form.

(1 mark)

The highest common factor of 20 and 35 is 5

$$20 \div 5 = 4 \text{ and } 35 \div 5 = 7$$

20

$$35 = 4 : 7$$

Dividing both quantities by the same number preserves their relative sizes. Using the highest common factor leaves no further whole-number factor to cancel

$$4 : 7$$

- 2 A bag has 8 red counters and 12 blue counters.

Write the ratio of red counters to blue counters in its simplest form.

(2 marks)

$$\text{red} : \text{blue} = 8 : 12$$

$$\div 4 \div 4$$

$$2 : 3$$

- 3 Write down the ratio 42 : 6 in the form $n : 1$.

(1 mark)

Divide both parts by 6

$$42 \div 6 = 7 \text{ and } 6 \div 6 = 1$$

42

$$6 = 7 : 1$$

$$7 : 1$$

- 4 A fruit bowl has 4 apples and 6 pears.

Write down the ratio of apples to pears in its simplest form.

(1 mark)

$$4 : 6$$

$$\div 2 \div 2$$

$$2 : 3$$

- 5 In a class, the ratio of boys to girls is 2 : 3. This means that for every 2 boys there are 3 girls. There are 6 boys in the class. How many girls are there?

(2 marks)

$$2 \text{ boys} \rightarrow 6 \text{ boys} : \times 3$$

$$3 \text{ girls} \times 3 = 9$$

$$\boxed{9 \text{ girls}}$$

- 6 Write down the missing number.

$$3 : 5 = 12 : \underline{\hspace{1cm}}$$

(1 mark)

$$3 : 5 = 12 : ?$$

$$\times 4 \times 4$$

$$5 \times 4 = 20$$

$$\boxed{20}$$

- 7 In a choir there are 16 sopranos and 24 altos.
Write down the ratio of the number of sopranos to the number of altos.
Give your ratio in its simplest form.

(2 marks)

The ratio of sopranos to altos is 16 : 24

The highest common factor of 16 and 24 is 8

$$16 \div 8 = 2 \text{ and } 24 \div 8 = 3, \text{ so the ratio is } 2 : 3$$

$$\boxed{2 : 3}$$

- 8 Simplify the ratio 15 : 10

(2 marks)

$$15 : 10$$

$$\div 5 \div 5$$

$$\boxed{3 : 2}$$

- 9 Write down the ratio 45 cm : 1.5 m in its simplest form.

(2 marks)

Convert to the same units

$$1.5 \text{ m} = 150 \text{ cm}$$

The ratio is 45 : 150

The highest common factor of 45 and 150 is 15

$$45 \div 15 = 3 \text{ and } 150 \div 15 = 10, \text{ so the ratio is } 3 : 10$$

$$\boxed{3 : 10}$$

10

At a cinema screening there are 84 adults and 63 children.

Write down the ratio of the number of adults to the number of children.

Give your ratio in its simplest form.

(2 marks)

The ratio of adults to children is 84 : 63

The highest common factor of 84 and 63 is 21

$84 \div 21 = 4$ and $63 \div 21 = 3$, so the ratio is 4 : 3

4 : 3
