

Ratio

Section 1: Understanding Ratios

1. Write the ratio of apples to bananas if there are 8 apples and 6 bananas.

To simplify divide both sides by the highest common factor which is:

6:8 in simplest form is:

2. The ratio of boys to girls in a class is 3:5. If there are 15 boys, how many girls are there?

$$\begin{array}{l} 3:5 \\ :15 \end{array} \downarrow \times$$

The quotient of 15 and 5 will tell you how many times larger one number is compared to another. To find the quotient you need to divide the larger number by the smaller number.

15 is x larger than 5, so the unknown must x larger than 3.

3. Express the ratio 12:18 in its simplest form.

To simplify divide both sides by the highest common factor which is:

12:18 in simplest form is:

4. A recipe requires a sugar-to-flour ratio of 2:3. If you have 10 cups of sugar, how much flour do you need?

$$\begin{array}{l} \times \\ 2:3 \\ 10: \end{array} \rightarrow$$

The quotient of 3 and 2 will tell you how many times larger one number is compared to another. To find the quotient you need to divide the larger number by the smaller number.

3 is x larger than 2, so the unknown must x larger than 10.

5. In a school, the ratio of teachers to students is 2:50. If there are 200 students, how many teachers are there?

$$\begin{array}{l} \div \\ 2:50 \\ :200 \end{array} \leftarrow$$

The quotient of 50 and 2 is

This means that 2 is x smaller than 50.

so

The unknown must be x smaller than 200.

6. In a school, the ratio of teachers to students is 4:80. If there are 240 students, how many teachers are there

$$\begin{array}{l} 4:80 \\ :240 \end{array} \downarrow \times$$

The quotient of 80 and 240 is

This means that 240 is x larger than 80.

so

The unknown must be x larger than 4.

Section 2: Calculating Part of a Quantity Using Ratios

1. A bag contains red and blue marbles in the ratio 2:3. If there are 30 marbles in total, how many are red?

How many parts are there altogether in the ratio?

1 part = total $\div$ number of parts

1 part = total $\times$ number of parts

1 part =

parts are red so out of 30 marbles there must be red marbles.

Number of red marbles in a bag of 30 is equal to $\times$ =

What fraction of the marbles are red? _____

What fraction of the marbles are blue? _____

2. A football team has players in the ratio of defenders to attackers as 4:1. If there are 25 players, how many are defenders?

How many parts are there altogether in the ratio?

1 part = total $\div$ number of parts

1 part = total $\times$ number of parts

1 part =

parts are defenders so out of 25 players there must be defenders.

Number of defenders in a team of 25 is equal to $\times$ =

What fraction of the team are defenders? _____

What fraction of the team are attackers? _____

3. The ratio of money shared between Alex and Ben is 5:3. If the total amount is \$64, how much does Alex receive? \$

How many parts are there altogether in the ratio?

1 part = total $\div$ number of parts

1 part = total $\times$ number of parts

1 part =

parts belong to Alex, so out of \$64, Alex receives \$

Share of the money Alex receives is $\times$ = \$

What fraction of the money does Alex get? _____

_____ $\times$ 64 = \$

4. . A company shares its profit among three partners in the ratio 3:2:1. If the total profit is \$18,000, how much does each partner receive?

The senior partner receives:\$

The junior partner receives:\$

The middle partner receives:\$

5. A fruit juice is made by mixing water and orange concentrate in the ratio 5:2. If there are 21 litres of juice in total, how many litres of orange concentrate are used?

Bonus Challenge: A group of friends shares a pizza in the ratio 2:2:1. If the pizza has 25 slices, how many slices does each person get?

Person 1

Person 2

Person 3