

Solving Ratios

Solving Ratios

Ratios can be used to solve problems. In this unit, you will be given ratios and use them to calculate new quantities.

Goal Post Method (Multiply & Divide)

EXAMPLE: For every 2 steps, 3 breaths are taken.
How many breaths are taken with 5 steps?

Write the problem like this:

2 steps : 3 breaths
5 steps : x breaths

$$x = \frac{5 \times 3}{2} = \frac{15}{2} = 7.5$$

REMEMBER:

A soccer player is trying to score a goal.
To find the value of x , **multiply the goal posts** and **divide by the goalie**.

For every 5 steps,
7.5 breaths are taken.

Instructions: Solve the ratios below, simplifying where possible.

1

John's car is carrying apples and oranges in a 2:3 ratio.
How many apples are there if there are 48 oranges?

2

Sam and Amy's weekly allowance is in a ratio of 5:2.
If Sam gets \$40, how much does Amy get?



3

A teacher has 42 pencils. If the ratio of pencils to pens is 3:8, how many pens does the teacher have?

4

At a concert, the male to female ratio is 3:4. If there are 120 males, how many females are there?

5

If the ratio of piano to guitar songs that Noah knows is 3:5, how many piano songs does he know if he can play 35 guitar songs?

6

A bakery regularly sells 84 muffins to 49 bread loaves per day. How many bread loaves does it sell every 24 muffins?

7

At a carnival, it costs \$120 to go on 9 rides. How much does it cost to go on 15 rides?



8

A cake recipe requires 800 grams of flour to 300 grams of sugar. If the same recipe is used but with 1200 grams of flour, how much sugar is needed?

9

At a shopping mall carpark, there are 120 large cars and 300 small cars. Using this ratio, how many large cars would there be if there were 110 small cars?

10

A store has 550 green apples and 125 red apples. How many green apples would there be if there were 60 red apples?

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Instructions: Solve the ratios below, simplifying where possible.

1

Amy owns purple and blue shirts in a 2:3 ratio.
If she has 12 purple shirts, how many blue shirts does she have?

2

A bag of candy has chocolate and caramel pieces in a ratio of 3:8. How many chocolate pieces are there for every 24 caramel pieces?



3

At an animal shelter, the ratio of cats to dogs is 5:7. How many dogs are there if there are 45 cats?

4

The ratio of people watching comedy to action movies at a cinema is 7:4. How many people watched a comedy movie if 12 people are watching an action movie?

5

For every 18 sodas sold at a store, 24 burgers are sold. How many burgers will the store sell if they sell 30 sodas?

6

A car travels 320 kilometres in 8 hours at a constant speed. If it travels for another 9 hours, how much further will it travel?

7

480 apples have been packed evenly in 18 boxes. How many apples can be packed in 24 boxes?



8

A fried chicken recipe requires 1500 grams of chicken to 300 grams of breading. How much breading is needed for 4.5kg of chicken?

9

At a shop, 24 milkshakes costs \$64. How many milkshakes can you buy with \$120?

10

Three water tanks can hold 3600 litres of water. How many water tanks are needed to hold 18,000 litres of water?