

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

| | | |
|-----|---|---|
| 1 | : | 3 |
| x | : | 9 |

2

| | | |
|---|---|-----|
| 2 | : | 3 |
| 6 | : | x |



3

$$\begin{array}{l} 4 : 5 \\ 8 : x \end{array}$$

4

$$\begin{array}{l} 2 : 7 \\ x : 14 \end{array}$$

5

$$\begin{array}{l} 3 : 5 \\ x : 25 \end{array}$$

6

$$\begin{array}{l} 5 : 4 \\ 15 : x \end{array}$$

7

$$\begin{array}{l} 4 : 9 \\ 8 : x \end{array}$$

8

$$\begin{array}{l} 8 : 5 \\ x : 10 \end{array}$$



9

$$\begin{array}{l} 3 : 7 \\ 9 : x \end{array}$$

10

$$\begin{array}{l} 12 : 5 \\ x : 10 \end{array}$$

11

$$\begin{array}{l} 2 : 11 \\ x : 33 \end{array}$$

12

$$\begin{array}{l} 15 : 3 \\ 30 : x \end{array}$$

13

$$\begin{array}{l} 7 : 10 \\ 14 : x \end{array}$$

14

$$\begin{array}{l} 5 : 12 \\ x : 24 \end{array}$$

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Instructions: Solve the ratios below, simplifying where possible.

1

| | | |
|-----|---|----|
| 2 | : | 3 |
| x | : | 15 |

2

| | | |
|----|---|-----|
| 4 | : | 3 |
| 12 | : | x |



| | | | |
|---|---|---|--|
| 3 | $\begin{array}{l} 7 : 2 \\ 14 : x \end{array}$ | 4 | $\begin{array}{l} 5 : 6 \\ 10 : x \end{array}$ |
| 5 | $\begin{array}{l} 8 : 3 \\ x : 9 \end{array}$ | 6 | $\begin{array}{l} 5 : 7 \\ x : 14 \end{array}$ |
| 7 | $\begin{array}{l} 6 : 11 \\ 12 : x \end{array}$ | 8 | $\begin{array}{l} 9 : 8 \\ x : 16 \end{array}$ |



9

$$\begin{array}{l} 5 : 3 \\ x : 9 \end{array}$$

10

$$\begin{array}{l} 3 : 7 \\ 12 : x \end{array}$$

11

$$\begin{array}{l} 12 : 5 \\ x : 5 \end{array}$$

12

$$\begin{array}{l} 7 : 5 \\ x : 12 \end{array}$$

13

$$\begin{array}{l} 8 : 7 \\ 12 : x \end{array}$$

14

$$\begin{array}{l} 7 : 10 \\ x : 8 \end{array}$$