

## 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

5	:	4
$x$	:	21

2

8	:	5
40	:	$x$



3

$$\begin{array}{l} 2 : 13 \\ 5 : x \end{array}$$

4

$$\begin{array}{l} 12 : 5 \\ x : 8 \end{array}$$

5

$$\begin{array}{l} 6 : 5 \\ x : 15 \end{array}$$

6

$$\begin{array}{l} 2 : 9 \\ 24 : x \end{array}$$

7

$$\begin{array}{l} 4 : 3 \\ 19 : x \end{array}$$

8

$$\begin{array}{l} 5 : 11 \\ 14 : x \end{array}$$



9

$$\begin{array}{l} 21 : 4 \\ x : 3 \end{array}$$

10

$$\begin{array}{l} 7 : 8 \\ x : 18 \end{array}$$

11

$$\begin{array}{l} 5 : 19 \\ 3 : x \end{array}$$

12

$$\begin{array}{l} 13 : 12 \\ x : 6 \end{array}$$

13

$$\begin{array}{l} 8 : 15 \\ x : 6 \end{array}$$

14

$$\begin{array}{l} 18 : 5 \\ 9 : x \end{array}$$

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7.5 breaths are taken.

**Instructions:** Solve the ratios below, simplifying where possible.

1

6	:	5
$x$	:	14

2

4	:	3
11	:	$x$



3

$$\begin{array}{l} 15 : 7 \\ 24 : x \end{array}$$

4

$$\begin{array}{l} 4 : 7 \\ x : 14 \end{array}$$

5

$$\begin{array}{l} 13 : 4 \\ x : 6 \end{array}$$

6

$$\begin{array}{l} 16 : 5 \\ 4 : x \end{array}$$

7

$$\begin{array}{l} 20 : 7 \\ 15 : x \end{array}$$

8

$$\begin{array}{l} 16 : 15 \\ 12 : x \end{array}$$



9

$$\begin{array}{l} 15 : 24 \\ x : 8 \end{array}$$

10

$$\begin{array}{l} 14 : 5 \\ x : 15 \end{array}$$

11

$$\begin{array}{l} 12 : 17 \\ 9 : x \end{array}$$

12

$$\begin{array}{l} 13 : 8 \\ x : 14 \end{array}$$

13

$$\begin{array}{l} 6 : 5 \\ x : 18 \end{array}$$

14

$$\begin{array}{l} 3 : 14 \\ 15 : x \end{array}$$