

Step # 1 First Ratio

Read the problem carefully!

Look for two numbers to compare as the first ratio.

You need three parts water for one part orange juice concentrate.

If you have 12 cups of water in a pitcher, how much O.J. concentrate do you need?

() parts water,
1 part O.J.

Step # 2 Second Ratio

Find a third number that is representing the same kind of idea as one of the numbers in your first ratio.

Write a second ratio by placing this number in the same position you wrote it on the first ratio (numerator or denominator). Put a variable on the second ratio in the other position (numerator or denominator).

water () = () water
O.J. 1 j O..J.

Step # 3- Solve an Equation

Multiply to get cross products that are equal.

Solve the new equation.

$$\begin{array}{cc} \underline{(\quad)} & \swarrow \quad \searrow & \underline{(\quad)} \\ \underline{(\quad)} & & \underline{(\quad)} \end{array}$$

$$3j = (\quad)$$

$$\frac{3}{3} j = \frac{(\quad)}{3}$$

$$j = (\quad)$$

Step # 4-Check and Answer

Substitute the solution of the equation to check.

Make sure both **quotients or cross products are equal.**

Answer the question.

$$\frac{3}{1} = \frac{(\quad)}{(\quad)}$$

$$3(\quad) = 1(\quad)^\circ$$

 cups of
O.J concentrate
are needed.

Step # 1 First Ratio

Read the problem carefully!
Look for two numbers to compare as the first ratio.

You need three parts water for one part orange juice concentrate.
If you have 12 cups of water in a pitcher, how much O.J. concentrate do you need?

(3) parts water,
1 part O.J.

Step # 2-Second Ratio

Find a third number that is representing the same kind of idea as one of the numbers in your first ratio.

Write a second ratio by placing this number in the same position you wrote it on the first ratio (numerator or denominator). Put a variable on the second ratio in the other position (numerator or denominator).

$$\frac{\text{water } (3)}{\text{O.J. } 1} = \frac{(12) \text{ water}}{j \text{ O..J.}}$$

Step # 3- Solve an Equation

Multiply to get cross products that are equal.

Solve the equation.

$$\begin{array}{cc} \frac{(3)}{(1)} & \begin{array}{c} \nearrow \\ \searrow \end{array} & \frac{(12)}{(j)} \\ & & \end{array}$$

$$3j = (12)$$

$$\frac{3}{3} j = \frac{(12)}{3}$$

$$j = (4)$$

Step # 4-Check and Answer

Substitute the solution of the equation to check.

Make sure both **quotients or cross products are equal.**

Answer the question.

$$\frac{3}{1} = \frac{(12)}{(4)}$$

$$3(4) = 1(12) \circ$$

4 cups of O.J concentrate are needed.



Proportions



Solving