

Proportional Reasoning

Ratios and proportions are used often in mixtures to keep a balance between ingredients.

Ex 1

An equivalent ratio can be made by multiplying or dividing all components by a constant amount.

Write an equivalent ratio for each given ratio

a) $3 : 6 = \underline{\quad} : \underline{\quad}$ b) $4 : 9 = \underline{\quad} : \underline{\quad}$ c) 6 to 10 = $\underline{\quad}$ to $\underline{\quad}$

Ex 2

A proportion is a statement to say that two ratios are equal. They can be used to solve mixture problems.

Orange Juice is made by combining 3 parts of water with 1 part of concentrate. If 9 parts of water are used to make Orange Juice then how much concentrate must be used?

Ex 3

More complicated problems can incorporate more than two elements in the mixture.

A recipe for math biscuits uses 5 cups of flour, 1 cup of sugar and 2 cups of milk. How much flour and sugar must be used to make the biscuits if we have 4 cups of milk?