
Direct proportion

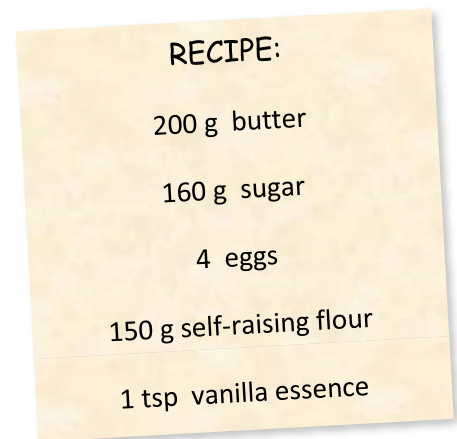
Two quantities are in direct proportion if the graph of one quantity against the other quantity is a straight line through the origin.

So if one quantity doubles then the other quantity doubles.

Questions:

1. The cost of five apples is \$3.25.
What is the cost of eight apples?

2. The recipe is for making cakes.
The mixture will make two cakes.
Helen wants to make seven cakes.
Calculate the amount of each ingredient needed.



INCREASE AND DECREASE IN A GIVEN RATIO

If you want to increase \$85 in the ratio 7 : 5 there are two possible methods.

Method 1

$$5 \text{ parts} = \$85$$

$$1 \text{ part} = \$85 \div 5 = \$17$$

$$7 \text{ parts} = 7 \times \$17 = \$119$$

So answer is \$119

Method 2

$$\$85 \times \frac{7}{5} = \$119$$

Questions:

1. Decrease 120 kg in the ratio 19 : 20.

2. A photo measures 20 cm by 15 cm. The photo is enlarged in the ratio 8 : 5.
 - a Calculate the measurements of the enlarged photo.

 - b Write down and simplify the ratio
area of enlarged photo : area of original photo

3. A company sells regular size boxes of washing powder. They decide to make a large size box by increasing the dimensions in the ratio 5 : 4.

a Calculate the measurements of the large box.

b Write down and simplify the ratio,

volume of large box : volume of regular box