Term: I Session 2023-2024



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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.

RECIPE:

200 g butter

160 g sugar

4 eggs

150 g self-raising flour

1 tsp vanilla essence

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Inverse Proportion

Two quantities are in inverse proportion if one quantity increases at the same rate as the other quantity decreases.

So if one quantity doubles the other quantity halves.

Questions:

1. It takes two men six hours to paint a fence.

How long would it take three men to paint the same fence?

2 A box of bird seed lasts 5 birds 15 days. How long would the same packet of bird seed last 30 birds?





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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

1 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

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| 3. | A company sells regular size boxes of washing powder. They decide to make a large size box by |
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| | 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