GCSE Maths: Ratio in context: recipes, mixing, concentration and conversion (Higher): worksheet

GCSE Maths - Ratio and Proportion - Higher - Lesson 15.6

Name: _____ Date: _____ Score: _____

15 questions. Write your answers in the spaces. Answers and step-by-step help are free at **websink.site/gcse/maths/ch15-ratio-proportion/higher/ratio-in-context-recipes-mixing-concentration-and-conversion/**

Exercise 15F Ratio in context

Calculator allowed

1 A recipe for 4 people uses 200 g of flour, 80 g of sugar, 120 g of butter and 2 eggs. Work out the amounts needed for each number of people.

(a) For 8 people

Answer:

(b) For 12 people

Answer:

(c) For 2 people

Answer:

(d) For 6 people

Answer:

2 Red and white paint are mixed in the ratio 2 : 5 to make 14 litres of pink paint. How many litres of each colour are used?

Answer:

3 Squash is made from squash concentrate and water in the ratio 1 : 4. Jo uses 250 ml of concentrate. How much water does she use and how much squash does she make?

Answer:

4 Concrete is made from cement, sand and gravel in the ratio 1 : 2 : 4. A builder makes 56 kg of concrete. How much of each material does he use?

Answer:

5 The exchange rate is £1 = €1.15. Convert each amount.

(a) £80 to euros

Answer:

(b) £250 to euros

Answer:

(c) €138 to pounds

Answer:

(d) €46 to pounds

Answer:

6 **A map has a scale of 1 : 50 000.**

(a) A road is 6 cm long on the map. How long is it in real life, in km?

Answer:

(b) A lake is 2.5 km long in real life. How long is it on the map, in cm?

Answer:

7 **A cleaning solution is made by mixing cleaner and water in the ratio 1 : 9. Work out how much cleaner is needed to make 500 ml of solution.**

Answer:

8 **Drink A is made by mixing squash and water in the ratio 1 : 4. Drink B is made by mixing squash and water in the ratio 1 : 5. Which drink is stronger? Show how you decide.**

Answer:

9 **A recipe for 12 cupcakes uses 150 g of butter. Mia has 450 g of butter and plenty of the other ingredients. How many cupcakes can she make?**

Answer:

10 **A gardener mixes plant food and water in the ratio 1 : 24. She uses 100 ml of plant food. How much water does she use, and how much mixture does she make?**

Answer:

11 **A T-shirt costs $30 in the USA and £22 in the UK. The exchange rate is £1 = $1.25. In which country is the T-shirt cheaper, and by how much (in pounds)?**

Answer:

12 **Orange paint is made from red and yellow paint in the ratio 3 : 2. Ella has 600 ml of red paint and 500 ml of yellow paint. What is the largest amount of orange paint she can make?**

Answer:

13 **Mixture A has milk and water in the ratio 2 : 3. Mixture B has milk and water in the ratio 3 : 1. 20 litres of mixture A and 20 litres of mixture B are poured into a tank. Write the ratio milk : water in the tank in its simplest form.**

Answer:

14 **A school canteen makes 24 glasses of squash, each of 250 ml. The squash is made from concentrate and water in the ratio 1 : 4. How many litres of concentrate are needed?**

Answer:

15 **A jug holds 1.2 litres of squash made with concentrate and water in the ratio 1 : 5. How much water must be added so that the ratio becomes 1 : 8?**

Answer:

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