



Proportion Exam Practice

Q1. Here are the ingredients needed to make 12 treacle bakes.

50 g of treacle

200 g of butter

200 g of flour

10 ml of milk

a) Work out how much butter is required to make 18 treacle bakes.

Scale factor: $18 \div 12 = 1.5$ or $1\frac{1}{2}$ times

$\Rightarrow 200 \times 1.5 = 300$

Answer: 300g
(2 marks)

b) Erin is making a batch of treacle bakes, and uses 40 ml of milk.
How many bakes does she make?

$10\text{ml} = 12$ bakes
 $\Rightarrow 40\text{ml} = 48$ bakes

Answer: 48 bakes
(2 marks)



Q2. Here is a recipe which will make 36 currant buns:

300 g flour
75 g sugar
40 g currants
225 g butter
15 g yeast

Amy has 200 g flour, 100g of butter and plenty of sugar, currants and yeast. Work out the maximum number of buns she can make.

$$\begin{aligned} & \bullet \quad 300 \text{ flour} = 36 \text{ buns} \quad (100 \text{ flour} = 12 \text{ buns}) \\ & \Rightarrow 200 \text{ flour} = \underline{24 \text{ buns}} \\ & \bullet \quad 225 \text{ butter} = 36 \text{ buns} \\ & \Rightarrow 25 \text{ butter} = 4 \text{ buns} \\ & \Rightarrow 100 \text{ butter} = \underline{16 \text{ buns}} \end{aligned}$$

So 16 is the max she can make.

Answer: 16 buns
(2 marks)



Q3. The main ingredients in a beef stew are beef, potatoes and carrots.

To make enough stew for 4 people, you need:
500 g beef, 350 g potatoes and 120 g carrots.
Sian wants to make stew for 10 people.

Complete the ingredients list below:

4 → 10 is scale factor of 2.5

Beef: 1250 g *(500g × 2.5)*

Potatoes: 875 g *(350g × 2.5)*

Carrots 300 g *(120g × 2.5)*

Answer: _____
(3 marks)



Q4. In a recipe, 270g of flour is required to make 8 cakes. Joy has 850 g of flour available. If she wants to make 26 cakes, does she have enough? You must show your working.

$$8 \text{ cakes} = 270\text{g}$$

$$\Rightarrow 1 \text{ cake} = 35\text{g}$$

$$\Rightarrow 26 \text{ cakes} = 910\text{g}$$

Joy has not got enough flour.

Answer: No
(3 marks)



Q5. To make 450 chocolates, a Timothy used the following ingredients:

900 g cocoa, 1.2 kg sugar, 2.55 kg butter, and 24 g salt.

(1200g) (2550g)

Complete the recipe he followed below:

Chocolate Treats: makes 30 chocolates

Cocoa: 60 g Sugar: 80 g

Butter: 170 g Salt: 1.6 g

- Scale factor is $\frac{450}{30} = 15$
- Divide each of the ingredients by 15

Answer: _____

(3 marks)



Q6. At the supermarket, eggs can be bought in boxes of 6. Ron's recipe for a cake requires 8 eggs. He wishes to make 17 cakes for the church fete. Work out how many boxes of eggs will he need to buy.

$$1 \text{ cake} = 8 \text{ eggs}$$

$$\Rightarrow 17 \text{ cakes} = 126 \text{ eggs}$$

$$126 \div 6 = 21 \text{ boxes}$$

Answer: 21 boxes
(3 marks)



Q7. Here is the nutritional information on the back of MegaFlakes cereal:

| Values: | Per 100 g: | Per 40 g serving: | %RDI: * |
|---------|---------------------|------------------------|---------------------|
| Energy | 360 kcal | $\frac{144}{2.5}$ kcal | $\frac{7.2}{2.5}$ % |
| Fat | 2.75 g | $\frac{1.1}{2.5}$ g | 1% |
| Salt | $\frac{0.6}{2.5}$ g | 0.24 g | 3% |

Each pack contains approximately 16 servings

(*) % of Recommended Daily Intake (RDI) contained in a 40g serving based on an average adult's 2000 kcal daily intake

a) Complete the nutritional information section above.

• Scale factor is $\frac{100}{40} = 2.5$

• RDI% : $\frac{144}{2000} \times 100 = 7.2\%$

Answer: _____
(3 marks)

b) Emma is an endurance athlete. She requires approximately 3500 kcal a day, and eats proportionally bigger servings. Assuming that she eats one serving per day, work out how many packs she will need to buy in a 4 week period.

Scale factor : $\frac{3500}{2000} = 1.5$

\Rightarrow Each serving needs to be $40g \times 1.5 = 60g$

\Rightarrow each pack contains $16 \times 40g = 640g$

$\Rightarrow 640 \div 60 = 10.6$ servings per pack

• She needs 28 servings in 4-weeks, ($4 \times 7 = 28$)

$\Rightarrow 28 \div 10.6 = 2.625$ packs

Answer: 3 packs
(3 marks)



Q8. Joan wants to make 16 nut slices. The recipe makes 36 slices, using 750 gram of flour. However, she knows from experience that this is 10% too much for her taste. Work out how much flour she will use to make the slices to her preference.

$$\bullet \quad 750g = 36 \text{ slices}$$

$$\text{preference: } 750g - (10\% \text{ of } 750g) = 675g \text{ flour.}$$

$$\Rightarrow \text{use } \quad 675g = 36 \text{ slices}$$

$$18.75g = 1 \text{ slice}$$

$$\Rightarrow \quad 300g = 16 \text{ slices}$$

Answer: 300g
(3 marks)