Guide to:
Proportion recipes

maths Links

Explanation:

Recipe questions use **direct proportion**. To scale a recipe for a different number of people, either use the **unitary method** (divide by the original number of servings to find the amount for 1 person, then multiply by the new number) or multiply by a **scale factor** ($\frac{\text{New}}{\text{Old}}$).

When asked for the **maximum number** of items you can make from given supplies, divide the available amount of each ingredient by the amount needed for one batch. The **smallest** result is the limiting ingredient and determines the maximum you can make.

Example 1: A recipe for **8 Flapjacks** uses **120 g** of oats and **60 g** of butter. How much of each is needed for **20 Flapjacks**?

Solution:

Scale factor = 20 ÷ 8 = **2.5**
Oats = 120 g × 2.5 = **300 g**
Butter = 60 g × 2.5 = **150 g**
Answer: 300 g oats, 150 g butter

Example 2: Making **12 cookies** needs **150 g flour** and **90 g sugar**. Sam has **600 g flour** and **270 g sugar**. Find the maximum cookies Sam can make.

Solution:

Flour batches: 600 ÷ 150 = **4 batches**
Sugar batches: 270 ÷ 90 = **3 batches** (limiting)
Max cookies = 3 batches × 12 cookies
Answer: 36 cookies

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