

1.4 A Tale of Two Numbers: Ratios and Proportions

Explore

Consider the following Nutrition Facts for Junior Mints candies. Use the information on the label to answer the questions, including units in your work and final answers. Keep in mind that nutrition labels tend to list approximate values, and percents are usually rounded to whole numbers.

1. What percent of the calories in Junior Mints is from fat?

$$30 \text{ fat cal} / 170 \text{ total cal} = 0.176 = \boxed{17.6\%}$$

2. This package of Junior Mints accounts for 5% of a person's daily intake of fat for a 2,000-calorie diet. How was that number calculated?

$$3 \text{ fat grams} / 65 \text{ total} = 4.6\% \approx 5\%$$

3. What percent of a person's daily allowance of carbohydrates does she consume if she eats this whole package of Junior Mints? Find the answer on the label and show how to calculate it, assuming a 2,000 calorie diet.

$$12\%$$

$$35 / 300 = 11.7\% \approx 12\%$$

4. Find the number of calories per piece of Junior Mint candy if there are 16 pieces in a serving.

$$170 / 16 = 10.625 \text{ cal/JM}$$

5. Assume a person has a 2,500-calorie diet. What percent of his daily allowance of carbohydrates does he consume if he eats this whole package of Junior Mints? Round your answer to the nearest whole percent.

$$35 / 375 = 9.3\% \approx 9\%$$

6. How many calories are there per gram of Junior Mints?

$$170 / 40 = 4.25 \text{ cal/g}$$

7. The label says there are 30 calories from fat. How was that number calculated? How accurate is it?

$$3 \cdot 9 = 27 \text{ cal}$$

Label is higher

Nutrition Facts	
Serving Size (40g)	
Amount per Serving	
Calories 170	Calories from Fat 30
% Daily Value*	
Total Fat 3g	5%
Saturated Fat 2.5g	13%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 30mg	1%
Total Carbohydrate 35g	12%
Dietary Fiber 1g	4%
Sugars 32g	
Protein 1g	2%
Vitamin A 0%	Vitamin C 0%
Calcium 0%	Iron 8%
*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.	
	Calories 2,000 2,500
Total Fat	Less than 65g 80g
Saturated Fat	Less than 20g 25g
Cholesterol	Less than 300mg 300mg
Sodium	Less than 2,400mg 2,400mg
Total Carbohydrate	300g 375g
Dietary Fiber	25g 30g
Protein	50g 65g
Calories per gram:	
	Fat 9 • Carbohydrate 4 • Protein 4

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Remember?

To convert a fraction to a percent, divide the numerator by the denominator and multiply the result by 100, which is the same as moving the decimal point two places to the right.