

NAME: _____



Purpose

Use a proportion to find the original amount or the new amount in a percent problem

Math Words

ratio A ratio, like $\frac{3}{5}$, compares two numbers and is often written like a fraction. We read this "3 to 5" or "3 for every 5."

equal ratios Ratios such as $\frac{6}{9}$ and $\frac{4}{6}$ are equal ratios because they each simplify to $\frac{2}{3}$.

proportion $\frac{8}{n} = \frac{4}{16}$

One way to read this proportion is: "8 compared to some number is equal to 4 compared to 16."

Starter Problem

Solve. Think about the meaning.

The chess team won 20 games this year. That is 40% of the games played. How many games did they play? _____

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Student Thinking

Ken

I made a table to show equal ratios. $\frac{20}{n}$ compares the number of games won and played. $\frac{40}{100}$ compares the percent won and played. I cross-multiplied to solve for n . They played 50 games. It checks because 40% of 50 is 20.



	GAMES	PERCENT
WON	20	40
PLAYED	n	100

$$\frac{20}{n} = \frac{40}{100}$$

$$40 \cdot n = 20 \cdot 100$$

$$\frac{40n}{40} = \frac{2000}{40}$$

$$n = 50 \text{ games}$$



Donna

I made a proportion and used cross multiplication to find what n equals. They played 8 games.

Pitfall

$$\frac{n}{20} = \frac{40}{100}$$

$$100 \cdot n = 20 \cdot 40$$

$$\frac{100n}{100} = \frac{800}{100}$$

$$n = 8$$

Things to Remember

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Our Turn

Solve each percent problem using a proportion. Fill in the table to help you.

1. Angel paid 4% interest on some money he owed his dad. He paid \$24.00 in interest. What was the original amount he owed his dad?

	number	percent
interest		
original amount		

2. Attendance at the beach picnic this year is 60% of last year's attendance. Last year 85 attended. How many attended this year?

	number	percent
last year		
this year		

3. 75 kids at a camp volunteered for the art project. The counselors chose 8% of the volunteers. How many of the volunteers were chosen?

	number	percent

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My Turn

Solve each percent problem using a proportion. Fill in the table to help you.

1. Joanie put \$50 into her savings. She earned 5% interest after one year. How much money did she earn in interest that year?

	number	percent
amount saved		
interest earned		

2. Last month’s attendance at the soccer game was 84% of this month’s attendance. If 357 attended last month, how many attended this month?

	number	percent
last month		
this month		

3. Kahlim made baskets on 70% of his shots during his games this season. If he made 56 baskets, how many times did he shoot for a basket in all?

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Multiple Choice Mini Lesson

Fill in the circle next to the answer you choose.

1. 16 is 25% of what number?

☐ 64☐ 40☐ 4☐ $\frac{1}{4}$

2. The school play attendance last year was 60% of this year's attendance. This year 120 people attended. How many attended last year?

☐ 200☐ 72☐ 60☐ 180

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Writing Task Mini Lesson

Explain how you know that in the proportion below, n is greater than 30.

$$\frac{30}{n} = \frac{50}{100}$$



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