

Percent Power Moves

Use ratios to find parts, totals, and percent changes.

GRADE 6 • MA.6.AR.3.4

MA.6.AR.3.4 "Apply ratio relationships to solve mathematical and real-world problems involving percentages using the relationship between two quantities."

NAME _____

DATE _____

PERCENT AS A RATIO

A percent compares a part to 100. To find a percent of a quantity, write the percent as a fraction over 100 and multiply. To find what percent one quantity is of another, write part/whole and make an equivalent fraction with a denominator of 100.

WORKED EXAMPLE

Find 15% of 80.

1. $15\% = 15/100$.
2. $15/100$ of 80 = $(15/100) \times 80$.
3. $(15 \times 80)/100 = 12$.

Answer: 12

PRACTICE 6 problems

1 Find 25% of 64.

ANSWER _____

2 18 is what percent of 60?

ANSWER _____

3 Find 45% of 40.

ANSWER _____

4 14 is 35% of what number?

ANSWER _____

5 Write $3/4$ as a percent.

ANSWER _____

6 A \$50 game is on sale for 20% off. What is the sale price?

ANSWER _____

APPLY IT Show your work

- 1** At an esports club meeting, 24 of 32 members choose to play a strategy game. What percent of the members choose the strategy game?

WORK SPACE

ANSWER _____

- 2** A pair of headphones costs \$36 after a 25% discount. What was the original price?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A \$70 skateboard deck is marked up 20%, then marked down 20% from the marked-up price. What is the final price? Explain why it is not \$70.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Find 25% of 64.	16
2	18 is what percent of 60?	30%
3	Find 45% of 40.	18
4	14 is 35% of what number?	40
5	Write $\frac{3}{4}$ as a percent.	75%
6	A \$50 game is on sale for 20% off. What is the sale price?	\$40

PART 2 • APPLY IT

1. **75%** Write the ratio as $\frac{24}{32}$ and simplify it to $\frac{3}{4}$. Since $\frac{3}{4} = \frac{75}{100}$, 75% of the members choose the strategy game.
2. **\$48** After a 25% discount, the sale price is 75% of the original price. Since 36 is 75% of 48, the original price was \$48.

CHALLENGE

The final price is \$67.20. The increase makes the price \$84, and 20% of \$84 is \$16.80, so the decrease gives \$67.20, not \$70.

Accept equivalent fraction, decimal, or percent forms when they represent the same value. For the challenge, students should show that the 20% increase and 20% decrease are based on different amounts.