Percent Power Moves

Use proportions to find parts, totals, and changes.

MA.7.AR.3 · Use percentages and proportional reasoning to solve problems.

Name _____ Date _____

PERCENT PATHS

To find p% of a number, write p% as p/100 and multiply. To find what percent one amount is of another, divide the part by the whole and multiply by 100%.

Worked example

Find 12% of 150.

1. Write 12% as 12/100.
2. Multiply: 12/100 * 150 = 18.
3. The value of 12% of 150 is 18.

18

1. Practice

Find 35% of 80.

2. Practice

27 is what percent of 90?

3. Practice

42 is 70% of what number?

4. Practice

A $64 item is discounted 25%. What is the sale price?

5. Practice

Write 3/5 as a percent.

6. Practice

A $50 online purchase has a 14% service fee. What is the total cost?

7. Apply

The drama club has raised $72 for new lights. This amount is 60% of its fundraising goal. What is the club's total goal?

8. Apply

A video game costs $50. It is on sale for 20% off, and then 10% sales tax is added to the sale price. What is the final cost?

9. Challenge

A jacket costs $80. It is discounted 25%, then the sale price is increased by 25%. What is the final price? Is it the same as the original price? Explain.

What to accept

Accept equivalent fraction, decimal, or percent forms when they match the requested quantity. Require dollar signs for money answers and clear reasoning for the challenge.

1. Practice

28

2. Practice

30%

3. Practice

60

4. Practice

$48

5. Practice

60%

6. Practice

$57

7. Apply

$120

Since $72 is 60% of the goal, multiply 72 by 100/60. The total goal is $120.

8. Apply

$44

The discount is $10, so the sale price is $40. Ten percent of $40 is $4, making the final cost $44.

9. Challenge

The final price is $75, which is $5 less than $80. The 25% discount uses $80: 0.25 × 80 = $20, leaving $60. The 25% increase uses $60: 0.25 × 60 = $15. The percentages use different bases, so the changes do not cancel.