Cumulative Algebra Review

TOPIC 4 / MATHEMATICS

Write. Represent. Explain.

45-minute lesson • Original classroom examples

What will we learn today?

- Connect evaluation, like terms, factoring, and equivalent expressions.
- Use an equation, inequality, table, or diagram to justify your reasoning.
- Explain your answer using mathematical vocabulary and units.

5-minute warm-up

Discuss with a partner: What previous algebra or number skill will help with today’s lesson?

Show one calculation or example in your notebook.

Why this lesson matters

A school fundraiser has fees, discounts, and variable ticket sales.

What is known? What is unknown? Which quantities are related?

Represent the relationship

A school fundraiser has fees, discounts, and variable ticket sales.

$$\frac{1}{2}(8x + 4) - 3x = x + 2$$

Explain the meaning of the variable, numbers, and operations.

Worked example

Simplify (1/2)(8x + 4) − 3x.

$$x + 2$$

Check: Does the result match the original relationship?

Independent practice

1. Simplify $5(2y - 3) - (4y + 1)$.

2. Factor $18p - 24$.

Check your reasoning

Question 1

$$6y - 16$$

Question 2

$$6(3p - 4)$$

Group challenge

Explain which of $x + x$, $2x$, and x^2 are equivalent.

Each group member must explain one step or defend one claim.

Group challenge • solution

$$x + x = 2x \neq x^2$$

Compare methods. Does the answer make sense in context?

Additional Practice — If Time Allows

Factor $18p - 24$.

Extension: Create a similar problem with different numbers.

2-minute exit ticket

Evaluate $3a^2 - 2a$ for $a = 2$.

Work independently. Show enough steps to explain your thinking.

Exit ticket • answer

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Reflect: What would you check before moving to the next lesson?