Subtract Algebraic Expressions

TOPIC 4 / MATHEMATICS

Write. Represent. Explain.

45-minute lesson • Original classroom examples

What will we learn today?

- Distribute the subtraction sign before combining.
- 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

Compare earnings $7x + 4$ and $3x - 5$.

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

Represent the relationship

Compare earnings 7x + 4 and 3x − 5.

$$(7x + 4) - (3x - 5) = 4x + 9$$

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

Worked example

Subtract (7x + 4) − (3x − 5).

$$4x + 9$$

Check: Does the result match the original relationship?

Independent practice

1. Subtract $(6y - 2) - (y + 3)$.

2. Subtract $(3p + 8) - (5p - 6)$.

Check your reasoning

Question 1

$$5y - 5$$

Question 2

$$-2p + 14$$

Group challenge

Explain why subtracting $(x - 4)$ adds 4.

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

Group challenge • solution

$$a - (x - 4) = a - x + 4$$

Compare methods. Does the answer make sense in context?

Additional Practice — If Time Allows

Subtract $(3p + 8) - (5p - 6)$.

Extension: Create a similar problem with different numbers.

2-minute exit ticket

Subtract $(9m - 1) - (4m + 6)$.

Work independently. Show enough steps to explain your thinking.

Exit ticket • answer

$$5m - 7$$

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