Expressions and Equivalence

Lesson 7 Expressions for Costs

Standards 6.EE.A.2a, 6.EE.B.6

Learning target I can translate words and situations into expressions.

Materials Algebra tiles or rectangle models, pencils, expression cards.

Lesson Flow 50 Minutes

0–5 Activate prior knowledge. Read the learning target. Ask students what they already know about expressions for costs. Use a quick model or estimate to make their starting ideas visible.

5–17 Teach and model. Define the variable first. Use parentheses for a sum or difference that must stay together. Read subtraction carefully: five less than n means n - 5, while five minus n means 5 - n. Work through the two examples on the attached instruction page. Have students name the first step before showing it.

17–22 Guided practice. Revisit worked Example 2 with its solution covered. Students propose the next step and explain why it is valid; uncover and compare with the worked solution.

22–45 Independent classwork. Assign the attached 10 questions in order. Check items 1–3 for entry-level understanding, 4–6 for connected procedures, 7–8 for representation and explanation, and 9–10 for application or justification. Ask students to use the instruction-page notes area or extra grids for longer work.

45–50 Check understanding. Use classwork question 10 as an exit discussion: A ticket costs $4. A group buys n tickets and pays a single $2 booking fee. Define n and write the total-cost expression. Evaluate it for n = 5. Compare the result with the answer key and ask a student to defend the method.

Support and Extension

Support Model item 1 together with the listed tools, then have students attempt item 2 independently. Watch exponents versus multiplication, operation order, and distributing to every term.

Extension Ask students to solve a final item another way, draw a second representation, or create a related problem with a checked answer.

Next step Record which students can explain the target independently. Begin the next teaching session with a brief correction for any recurring error.

Name _____ Date _____

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Learn and Discuss

Define the variable first. Use parentheses for a sum or difference that must stay together. Read subtraction carefully: five less than n means n - 5, while five minus n means 5 - n.

Example 1 Write an expression for 8 less than n.
Solution n - 8. Start with n, then subtract the named amount.
Example 2 A ticket costs $7. A group buys n tickets and pays a single $6 booking fee. Define n and write the total-cost expression. Evaluate it for n = 3.
Solution n = ticket count; 7n + 6; $27. Ticket cost is 7 × n; add the one-time fee 6.

Classwork Show Your Work

Complete the 10 problems on the following page. Refer to the examples, draw models, and check your results.

My Notes or Second Method

Lesson 7 Expressions for Costs

Name _____ Show calculations, models, and units.

1. Write an expression for 4 less than n.

2. Write an expression for 3 less than n.

3. Write an expression for 7 less than n.

4. Write an expression for 6 times the sum of x and 6.

5. Write an expression for 5 times the sum of x and 2.

6. Write an expression for 7 times the sum of x and 7.

7. A ticket costs $6. A group buys n tickets and pays a single $7 booking fee. Define n and write the total-cost expression. Evaluate it for n = 4.

8. A ticket costs $4. A group buys n tickets and pays a single $5 booking fee. Define n and write the total-cost expression. Evaluate it for n = 2.

9. A ticket costs $5. A group buys n tickets and pays a single $4 booking fee. Define n and write the total-cost expression. Evaluate it for n = 2.

10. A ticket costs $4. A group buys n tickets and pays a single $2 booking fee. Define n and write the total-cost expression. Evaluate it for n = 5.

Expressions for Costs

Expressions and Equivalence

1. n - 4
Reasoning Start with n, then subtract the named amount.

2. n - 3
Reasoning Start with n, then subtract the named amount.

3. n - 7
Reasoning Start with n, then subtract the named amount.

4. 6(x + 6)
Reasoning Group the sum before multiplying.

5. 5(x + 2)
Reasoning Group the sum before multiplying.

6. 7(x + 7)
Reasoning Group the sum before multiplying.

7. n = ticket count; 6n + 7; $31
Reasoning Ticket cost is 6 × n; add the one-time fee 7.

8. n = ticket count; 4n + 5; $13
Reasoning Ticket cost is 4 × n; add the one-time fee 5.

9. n = ticket count; 5n + 4; $14
Reasoning Ticket cost is 5 × n; add the one-time fee 4.

10. n = ticket count; 4n + 2; $22
Reasoning Ticket cost is 4 × n; add the one-time fee 2.