LESSON MAKER PRO

Order Matters

Evaluate expressions by hand, then check with a calculator if one is available.

GRADE 7 · 7.A.4.2

7.A.4.2 "Evaluate numerical expressions using calculators and other technologies and justify solutions using order of operations and grouping symbols."

NAME _____ DATE _____

WHICH STEP COMES FIRST?

Evaluate inside grouping symbols first, then exponents. Next, do multiplication and division from left to right, followed by addition and subtraction from left to right. When you use a calculator, enter the grouping symbols exactly as written.

WORKED EXAMPLE

Evaluate (41 - 23) / 9 + 16.

1. Subtract inside the parentheses: 18 / 9 + 16.
2. Divide: 2 + 16.
3. Add: 18.

Answer: 18

PRACTICE 6 problems

1 Evaluate 6 + 2 × 7.

ANSWER _____

2 Evaluate (6 + 2) × 7. Explain why your answer differs from problem 1.

ANSWER _____

3 Evaluate 30 / (8 - 2) + 7.

ANSWER _____

4 Evaluate 2^3 + 18 / 6.

ANSWER _____

5 Evaluate 25 - 3 × (10 - 6). State which operation you do first.

ANSWER _____

6 Evaluate 1.5 × (8 + 2) - 7.

ANSWER _____

APPLY IT Show your work

1 You have a $20 gift card. A game pass costs $6, and each round costs $2. You buy the pass and play 5 rounds. Write an expression with grouping symbols for the money left, then evaluate it.

WORK SPACE

ANSWER _____

2 A playlist has 3 songs that last 2.5 minutes each and 2 songs that last 4 minutes each. You skip 1.5 minutes of music. Write and evaluate an expression for the number of minutes you listen.

WORK SPACE

ANSWER _____

CHALLENGE One step up

A calculator shows 34 for 10 + 6 × 4. Write the grouping symbols that would make the result 64. Then explain in one sentence why the original expression equals 34.

WORK SPACE AND ANSWER

ANSWER KEY

Order Matters

GRADE 7 · 7.A.4.2

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Evaluate 6 + 2 × 7.	**20**
2	Evaluate (6 + 2) × 7. Explain why your answer differs from problem 1.	**56. The parentheses make you add first; in problem 1, you multiply first.**
3	Evaluate 30 / (8 - 2) + 7.	**12**
4	Evaluate 2^3 + 18 / 6.	**11**
5	Evaluate 25 - 3 × (10 - 6). State which operation you do first.	**13. Subtract 10 - 6 first.**
6	Evaluate 1.5 × (8 + 2) - 7.	**8**

PART 2 · APPLY IT

1. **20 - (6 + 5 × 2) = 4, so $4 is left.** The pass and rounds cost $6 + $10 = $16. Subtract that total from $20.
2. **(3 × 2.5 + 2 × 4) - 1.5 = 14 minutes** The songs total 7.5 + 8 = 15.5 minutes. Subtract the 1.5 minutes skipped.

CHALLENGE

(10 + 6) × 4 = 64. In the original expression, multiply 6 × 4 first to get 24, then add 10 to get 34.

Accept equivalent expressions for the word problems if they match the situations and evaluate correctly. For explanations, look for the operation selected by the order of operations, not just the final value.