LESSON MAKER PRO

Blank Number Logic

Evaluate expressions and test number statements.

GRADE 5 · 5.A.2

5.A.2 "Understand and interpret expressions, equations, and inequalities involving variables and whole numbers, and use them to represent and evaluate real-world and mathematical problems..."

NAME _____ DATE _____

THE BIG IDEA

A blank can stand for a number. Replace the blank with its given value, then work inside parentheses first. Multiply or divide before you add or subtract, and calculate both sides to decide whether an equation or inequality is true.

WORKED EXAMPLE

When ____ = 13, find 7 + 2 × ____.

1. Replace the blank: 7 + 2 × 13
2. Multiply first: 7 + 26
3. Add: 33

Answer: 33

PRACTICE 6 problems

1 If ___ = 5, find 6 × ___ + 4.

ANSWER _____

2 If ___ = 8, find 40 - (___ + 9).

ANSWER _____

3 If ___ = 6, find 48 / ___ + 5 × 4.

ANSWER _____

4 When ___ = 10, is 5 × ___ + 9 = 59 true or false?

ANSWER _____

5 When ___ = 12, is 3 × ___ < 35 true or false?

ANSWER _____

6 Rewrite 5 × (20 + 6) using the distributive property. Find its value.

ANSWER _____

_____

APPLY IT Show your work

1 At game club, a player earns 8 points for each puzzle solved and 5 bonus points. Write an expression using ___ for the number of puzzles solved. Then find the score for ___ = 6.

WORK SPACE

ANSWER _____

2 A group pays $12 to enter a skate park, plus $4 for each hour they skate. They have $32. If ___ is the number of hours, is 12 + 4 × ___ ≤ 32 true when ___ = 5? Explain what your answer means.

WORK SPACE

ANSWER _____

CHALLENGE One step up

At an arcade, you start with 48 tokens and earn 6 tokens for each task you do. Each of 16 games costs 5 tokens. What is the least whole number of tasks you must do to afford all 16 games? Write an inequality using ___ for the number of tasks, then test your answer.

WORK SPACE AND ANSWER

ANSWER KEY

Blank Number Logic

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	If ___ = 5, find 6 × ___ + 4.	**34**
2	If ___ = 8, find 40 - (___ + 9).	**23**
3	If ___ = 6, find 48 / ___ + 5 × 4.	**28**
4	When ___ = 10, is 5 × ___ + 9 = 59 true or false?	**True**
5	When ___ = 12, is 3 × ___ < 35 true or false?	**False**
6	Rewrite 5 × (20 + 6) using the distributive property. Find its value.	**5 × 20 + 5 × 6 = 130**

PART 2 · APPLY IT

1. **8 × ___ + 5; 53 points** Multiply 8 by 6, then add 5: 48 + 5 = 53.
2. **True; skating for 5 hours costs $32, so the group has enough money.** Substitute 5 for the blank: 12 + 4 × 5 = 32. Since 32 ≤ 32, the inequality is true.

CHALLENGE

48 + 6 × ___ ≥ 5 × 16; 6 tasks. With 5 tasks, you have 78 tokens, which is less than the 80 needed. With 6 tasks, you have 84 tokens, which is enough.

For practice problem 6, accept 20 × 5 + 6 × 5 = 130. For the challenge, the inequality and a check that 5 tasks are not enough and 6 tasks are enough must be shown.