LESSON MAKER PRO

Expression Quest

Substitute, follow the steps, and solve.

GRADE 6 · MA.6.AR.1.3

MA.6.AR.1.3 "Evaluate algebraic expressions using substitution and order of operations."

NAME _____ DATE _____

SUBSTITUTE AND SOLVE

Replace the variable with its given value. Then use order of operations: work inside parentheses first, multiply or divide from left to right, and add or subtract from left to right.

WORKED EXAMPLE

Evaluate $8 + 5x$ when $x = 6$.

1. Substitute 6 for x: 8 + 5(6)
2. Multiply: 8 + 30
3. Add: 38

Answer: 38

PRACTICE 6 problems

1 Evaluate 3x + 11 when x = 4.

ANSWER _____

2 Evaluate 18 - 2x when x = 7.

ANSWER _____

3 Evaluate 24/x + 9 when x = 3.

ANSWER _____

4 Evaluate 7(x + 3) when x = 4.

ANSWER _____

5 Evaluate 12 + 3(x - 4) when x = 9.

ANSWER _____

6 Evaluate 30/(x + 1) when x = 9.

ANSWER _____

APPLY IT Show your work

1 A phone case shop charges $12 for a design setup plus $4 for each sticker. The cost is 4x + 12 dollars, where x is the number of stickers. What is the cost for 9 stickers?

WORK SPACE

ANSWER _____

2 A game creator gives 3(x + 7) coins for completing x levels in a weekend challenge. How many coins does a player earn for completing 9 levels?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Evaluate 36/(x - 3) + 4x when x = 9. Show your steps.

WORK SPACE AND ANSWER

ANSWER KEY

Expression Quest

GRADE 6 · MA.6.AR.1.3

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Evaluate 3x + 11 when x = 4.	**23**
2	Evaluate 18 - 2x when x = 7.	**4**
3	Evaluate 24/x + 9 when x = 3.	**17**
4	Evaluate 7(x + 3) when x = 4.	**49**
5	Evaluate 12 + 3(x - 4) when x = 9.	**27**
6	Evaluate 30/(x + 1) when x = 9.	**3**

PART 2 · APPLY IT

1. **$48** Substitute 9 for x: 4(9) + 12. Multiply first, then add to get 48.
2. **48 coins** Substitute 9 for x: 3(9 + 7). Add inside the parentheses, then multiply to get 48.

CHALLENGE

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Accept equivalent numerical work that correctly substitutes before using order of operations. For the challenge, students should subtract inside the parentheses before dividing and multiplying.