

## Evaluating Expressions Worksheet Answer Key PDF

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### Part 1: Building a Foundation

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**Which of the following is an example of an algebraic expression?**

undefined.  $5 + 7$

**undefined.  $x + 3$  ✓**

undefined.  $9 - 2$

undefined.  $12$

The correct answer is B)  $x + 3$ , as it contains a variable.

**Which of the following is an example of an algebraic expression?**

undefined. A)  $5 + 7$

**undefined. B)  $x + 3$  ✓**

undefined. C)  $9 - 2$

undefined. D)  $12$

The correct answer is an expression that contains a variable.

**Which of the following is an example of an algebraic expression?**

undefined. A)  $5 + 7$

**undefined. B)  $x + 3$  ✓**

undefined. C)  $9 - 2$

undefined. D)  $12$

An algebraic expression includes at least one variable.

**Which components can be found in an algebraic expression? (Select all that apply)**

undefined. Variables ✓

undefined. Coefficients ✓

undefined. Constants ✓

undefined. Equations

The correct answers are A) Variables, B) Coefficients, and C) Constants.

**Which components can be found in an algebraic expression? (Select all that apply)**

undefined. A) Variables ✓

undefined. B) Coefficients ✓

undefined. C) Constants ✓

undefined. D) Equations

Components include variables, coefficients, and constants.

**Which components can be found in an algebraic expression? (Select all that apply)**

undefined. A) Variables ✓

undefined. B) Coefficients ✓

undefined. C) Constants ✓

undefined. D) Equations

Components include variables, coefficients, and constants.

**Define what a variable is in the context of an algebraic expression.**

**A variable is a symbol that represents an unknown value in an expression.**

**Define what a variable is in the context of an algebraic expression.**

**A variable is a symbol that represents an unknown value.**

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**A variable is a symbol that represents an unknown value.**

**List the steps of the order of operations using the acronym PEMDAS.**

1. What does P stand for?

**Parentheses**

2. What does E stand for?

**Exponents**

3. What does M stand for?

**Multiplication**

PEMDAS stands for Parentheses, Exponents, Multiplication and Division (from left to right), Addition and Subtraction (from left to right).

**In the expression  $4x + 7$ , what is the coefficient of  $x$ ?**

**undefined. 4 ✓**

undefined. 7

undefined.  $x$

undefined. 11

The coefficient of  $x$  in the expression  $4x + 7$  is 4.

**In the expression  $4x + 7$ , what is the coefficient of  $x$ ?**

**undefined. A) 4 ✓**

undefined. B) 7

undefined. C)  $x$

undefined. D) 11

The coefficient of  $x$  is the number in front of the variable.

**In the expression  $4x + 7$ , what is the coefficient of  $x$ ?**

**undefined. A) 4 ✓**

undefined. B) 7

undefined. C)  $x$

undefined. D) 11

The coefficient of  $x$  is the number in front of the variable.

## Part 2: Application and Analysis

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**What is the result of evaluating the expression  $3 + 6 \times (5 + 4) \div 3 - 7$ ?**

**undefined. 11 ✓**

undefined. 14

undefined. 16

undefined. 19

The result of evaluating the expression is 11.

**What is the result of evaluating the expression  $3 + 6 \times (5 + 4) \div 3 - 7$ ?**

undefined. A) 11

**undefined. B) 14 ✓**

undefined. C) 16

undefined. D) 19

Evaluate step by step according to PEMDAS.

**What is the result of evaluating the expression  $3 + 6 \times (5 + 4) \div 3 - 7$ ?**

undefined. A) 11

**undefined. B) 14 ✓**

undefined. C) 16

undefined. D) 19

Evaluate the expression step by step according to PEMDAS.

**If  $x = 3$  and  $y = 2$ , what is the value of the expression  $2x + 3y$ ?**

**undefined. 12 ✓**

undefined. 13

undefined. 14

undefined. 15

The value of the expression  $2x + 3y$  is 12 when  $x = 3$  and  $y = 2$ .

**If  $x = 3$  and  $y = 2$ , what is the value of the expression  $2x + 3y$ ?**

undefined. A) 12

**undefined. B) 13 ✓**

undefined. C) 14

undefined. D) 15

Calculate the expression using the given values.

**If  $x = 3$  and  $y = 2$ , what is the value of the expression  $2x + 3y$ ?**

undefined. A) 12

**undefined. B) 13 ✓**

undefined. C) 14

undefined. D) 15

Calculate the expression by substituting the given values.

**Which of the following expressions is equivalent to  $2(x + 3) - 4$ ?**

undefined.  $2x + 2$

**undefined.  $2x + 6 - 4$  ✓**

undefined.  $2x + 8$

undefined.  $2x + 3$

The equivalent expression is  $2x + 2$ , after simplifying  $2(x + 3) - 4$ .

**Which of the following expressions is equivalent to  $2(x + 3) - 4$ ?**

undefined. A)  $2x + 2$

**undefined. B)  $2x + 6 - 4$  ✓**

undefined. C)  $2x + 8$

undefined. D)  $2x + 3$

Look for the expression that simplifies to the same form.

**Which of the following expressions is equivalent to  $2(x + 3) - 4$ ?**

undefined. A)  $2x + 2$

**undefined. B)  $2x + 6 - 4$  ✓**

undefined. C)  $2x + 8$

undefined. D)  $2x + 3$

Use distribution to simplify the expression correctly.

Analyze the expression  $3(x - 2) + 4x$ . Which of the following are correct simplifications? (Select all that apply)

undefined.  $3x - 6 + 4x$  ✓

undefined.  $7x - 6$  ✓

undefined.  $3x + 4x - 6$

undefined.  $3x - 2 + 4x$

The correct simplifications are A)  $3x - 6 + 4x$  and B)  $7x - 6$ .

Analyze the expression  $3(x - 2) + 4x$ . Which of the following are correct simplifications? (Select all that apply)

undefined. A)  $3x - 6 + 4x$  ✓

undefined. B)  $7x - 6$  ✓

undefined. C)  $3x + 4x - 6$  ✓

undefined. D)  $3x - 2 + 4x$

Identify all correct simplifications of the expression.

Analyze the expression  $3(x - 2) + 4x$ . Which of the following are correct simplifications? (Select all that apply)

undefined. A)  $3x - 6 + 4x$  ✓

undefined. B)  $7x - 6$  ✓

undefined. C)  $3x + 4x - 6$  ✓

undefined. D)  $3x - 2 + 4x$

Identify all valid simplifications of the expression.

### Part 3: Evaluation and Creation

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Which expression represents the perimeter of a rectangle with length  $l$  and width  $w$ ?

undefined.  $2l + 2w$

undefined.  $l + w$

undefined.  $2(l + w)$  ✓

undefined.  $lw$

The expression that represents the perimeter is C)  $2(l + w)$ .

**Which expression represents the perimeter of a rectangle with length  $l$  and width  $w$ ?**

undefined. A)  $2l + 2w$  ✓

undefined. B)  $l + w$

undefined. C)  $2(l + w)$

undefined. D)  $lw$

The perimeter is calculated by adding the lengths of all sides.

**Which expression represents the perimeter of a rectangle with length  $l$  and width  $w$ ?**

undefined. A)  $2l + 2w$  ✓

undefined. B)  $l + w$

undefined. C)  $2(l + w)$

undefined. D)  $lw$

The perimeter is calculated by adding the lengths of all sides.

**Create an expression that represents the total cost of buying  $x$  apples at \$2 each and  $y$  oranges at \$3 each. Explain your reasoning.**

The expression is  $2x + 3y$ , representing the cost of apples and oranges.

**Create an expression that represents the total cost of buying  $x$  apples at \$2 each and  $y$  oranges at \$3 each. Explain your reasoning.**

The expression would be  $2x + 3y$ , representing the total cost.

**Create an expression that represents the total cost of buying  $x$  apples at \$2 each and  $y$  oranges at \$3 each. Explain your reasoning.**

The expression would be  $2x + 3y$ , representing the total cost.

**Reflect on how understanding expressions and their evaluation can be useful in everyday life.  
Provide an example to support your reflection.**

**Understanding expressions helps in budgeting, shopping, and planning.**

**Reflect on how understanding expressions and their evaluation can be useful in everyday life.  
Provide an example to support your reflection.**

**Understanding expressions helps in budgeting and financial planning.**

**Reflect on how understanding expressions and their evaluation can be useful in everyday life.  
Provide an example to support your reflection.**

**Understanding expressions helps in making informed decisions.**