

## Evaluating Expressions Worksheet

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### Part 1: Building a Foundation

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

*Hint: Think about what includes variables and constants.*

- 5 + 7
- x + 3
- 9 - 2
- 12

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*Hint: Think about expressions that include variables.*

- A) 5 + 7
- B) x + 3
- C) 9 - 2
- D) 12

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

*Hint: Consider the elements that make up an expression.*

- Variables

- Coefficients
- Constants
- Equations

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- D) Equations

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

*Hint: Think about what a variable represents in mathematics.*

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*Hint: Think about how variables are used in expressions.*

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

*Hint: Remember the order in which operations should be performed.*

1. What does P stand for?

2. What does E stand for?

3. What does M stand for?

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

*Hint: Identify the number that is multiplied by the variable.*

- 4
- 7
- $x$
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## Part 2: Application and Analysis

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

*Hint: Follow the order of operations carefully.*

- 11
- 14
- 16
- 19

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*Hint: Use the order of operations to solve.*

- A) 11
- B) 14
- C) 16
- D) 19

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

*Hint: Substitute the values of  $x$  and  $y$  into the expression.*

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- 13
- 14
- 15

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- B) 13
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- B) 13
- C) 14
- D) 15

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

*Hint: Distribute and simplify the expression.*

- $2x + 2$
- $2x + 6 - 4$
- $2x + 8$
- $2x + 3$

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

*Hint: Distribute and combine like terms.*

- A)  $3x - 6 + 4x$
- B)  $7x - 6$
- C)  $3x + 4x - 6$
- D)  $3x - 2 + 4x$

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*Hint: Look for equivalent forms of the expression.*

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### Part 3: Evaluation and Creation

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

*Hint: Think about the formula for perimeter.*

- $2l + 2w$
- $l + w$
- $2(l + w)$
- $lw$

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

*Hint: Consider the formula for perimeter.*

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- B)  $l + w$
- C)  $2(l + w)$
- D)  $lw$

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

*Hint: Think about how to calculate the perimeter.*

- A)  $2l + 2w$
- B)  $l + w$
- C)  $2(l + w)$
- D)  $lw$

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

*Hint: Consider how to represent costs in an expression.*

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

*Hint: Consider practical applications of algebra in daily activities.*

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