

Grade 6 · Writing and Evaluating Algebraic Expressions · Worksheet

Common Core 6.EE.A.2, 6.EE.A.3, 6.EE.A.4 · mathovore.fr

Name: _____ Date: ____/____/____ Score: _____

These 10 problems practice writing, evaluating, and rewriting algebraic expressions from Common Core 6.EE.A.2, 6.EE.A.3, and 6.EE.A.4. Early problems name the parts of an expression and translate phrases; later problems use exponents, formulas, the distributive property, and like terms.

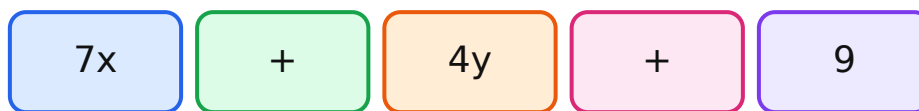
Problems 8 through 10 are word problems about pay, area, and a gift box. Write each step of your substitution so that the work is easy to check.

Grade 6 Common Core: 6.EE.A.2 · 6.EE.A.3 · 6.EE.A.4

Problem 1: Parts of an Expression

Use the expression $7x+4y+9$ to answer each question.

- How many terms does it have?
- What is the coefficient of x ?
- What is the coefficient of y ?
- Which term is the constant?



Expression $7x+4y+9$.

Problem 2: Writing Simple Expressions

Write an algebraic expression for each phrase.

- 8 more than n
- 6 less than y
- the product of 5 and m
- k divided by 4

Problem 3: Writing Longer Expressions

Write an algebraic expression for each phrase.

- a. twice the sum of x and 7
- b. 3 times a , decreased by 2
- c. the quotient of 20 and p
- d. 9 less than the product of 4 and t

Phrase	Think
twice	$\times 2$
sum of	add, use ()
less than	subtract
quotient	divide

Hints for translating phrases.

Problem 4: Evaluating Expressions

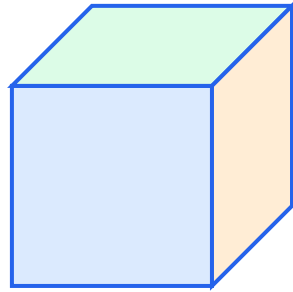
Evaluate each expression when $x = 6$.

- a. $x + 9$
- b. $4x$
- c. $\frac{30}{x}$
- d. $3x - 5$

Problem 5: Exponents and Formulas

Evaluate each expression or formula.

- a. n^2 when $n = 7$
- b. $5x^2 - 10$ when $x = 4$
- c. $V = s^3$ when $s = 5$ ft
- d. $A = 6s^2$ when $s = \frac{1}{2}$ in



all edges equal

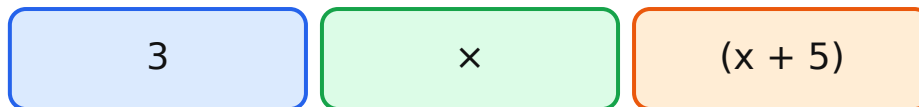
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Cube with edge s.

Problem 6: Distributive Property

Apply the distributive property to write an equivalent expression.

- a. $3(x+5)$
- b. $4(2y+1)$
- c. $6x+9$ as a product of 3 and a sum
- d. $10+15m$ as a product of 5 and a sum



A number multiplied by a sum.

Problem 7: Combining Like Terms

Simplify each expression by combining like terms.

- a. $7a+3a$
- b. $9b-4b$
- c. $2x+5+6x+1$
- d. $3y+4+y+2y$



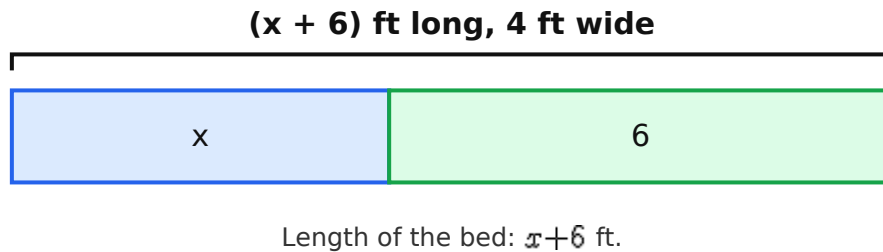
Like terms share the same variable part.

Problem 8: Dog Walking Pay

Ethan earns \$12 for each hour he walks dogs and gets a \$5 tip. Write an expression for his total pay for h hours, then evaluate it when $h = 6$.

Problem 9: Flower Bed Area

A rectangular flower bed is 4 ft wide and $(x+6)$ ft long. Write two equivalent expressions for its area, then show that they have the same value when $x = 3$.



Problem 10: Gift Box

Sofia wraps a cube-shaped gift box with edges of 8 in. Wrapping paper costs \$0.02 per square inch.

- Find the volume of the box using $V = s^3$.
- Find the surface area using $A = 6s^2$.
- Find the cost of the paper needed to cover the whole box.

