

Name _____

Lesson 51

COMMON CORE STANDARD CC.6.EE.2a

Lesson Objective: Write algebraic expressions.

Write Algebraic Expressions

Word problems use expressions that you can write with symbols. An **algebraic expression** has at least one variable. A **variable** is a letter or symbol that represents one or more numbers. Writing algebraic expressions for words helps you solve word problems.

These are a few common words that are used for operations.

add (+)

sum
increased by
plus
more than

subtract (-)

difference
minus
decreased by
less
less than

multiply (×)

product
times

divide (÷)

quotient
divided by

17 more than x

$$x + 17$$

"More than" means add.

"17 more than x " means add 17 to x .

four times the sum of 7 and n

$$4 \times (7 + n)$$

"Times" means multiply.

"Sum" means add.

The words mean multiply 4 by $(7 + n)$.

A number next to a variable always shows multiplication.

For example, $5n$ means the same as $5 \times n$.

Write an algebraic expression for the word expression.

1. b divided by 9

2. c more than 5

3. d decreased by 29

4. 8 times g

5. p increased by 12

6. the quotient of k and 14

7. 17 less than the product of 3 and m

8. 2 less than the quotient of d and 16

1. There are 16 ounces in 1 pound. Which expression gives the number of ounces in p pounds?

(A) $16 + p$
(B) $16 - p$
(C) $16p$
(D) $p \div 16$

2. The length of a swimming pool is 5 feet shorter than twice the width. Let n represent the width. Which expression gives the length of the swimming pool?

(A) $2n + 5$
(B) $2n - 5$
(C) $2(n - 5)$
(D) $2(n + 5)$

3. Carmen's family rents a boat at Big Lake at the rate described.

BIG LAKE BOAT RENTAL
\$200 each day
\$4 for each gallon of gasoline used
19-ft

Which expression gives the total cost of the day's rental if her family uses n gallons of gasoline?

(A) $200 - 4n$ (C) $(200 + 4) \times n$
(B) $200 + 4n$ (D) $200n + 4$

4. There are 5,280 feet in 1 mile. Which expression gives the number of feet in m miles?

(A) $5,280m$ (C) $5,280 - m$
(B) $5,280 \div m$ (D) $5,280 + m$