

Write Algebraic Expressions

Lesson 6-3

Name: _____

Date: _____

Class: _____

Key Vocabulary

Level 1 support

Picture first, then the word, then a plain-language meaning. Say each word out loud.

In $5t + 20$, t could be hours worked — if $t = 3$, the expression equals 35; if $t = 8$, it equals 60

Variable

A letter that stands for a number that is unknown or can change.

$3n + 7$ means 'triple a number, then add 7' — it has a variable (n), a coefficient (3), and a constant (7)

Algebraic Expression

A math phrase that has at least one letter.

In $8x$, the coefficient 8 means '8 groups of x ' — if $x = 3$, then $8x = 8 \times 3 = 24$

Coefficient

The number in front of a letter, like the 3 in $3x$.

In $3n + 7$, the 7 never changes no matter what n is — like a flat fee that stays the same

Constant

A number on its own that does not change.

$4x + 2x = 6x$ (like terms, same variable); but $4x + 2y$ cannot be combined (different variables)

Like terms

Terms with the same letter, like $2x$ and $5x$.

Key Ideas & Notes

- You're planning a concert at the music studio.
- Tickets cost \$12 each, and there's a flat \$50 venue fee no matter how many people attend.
- If t represents the number of tickets sold, how would you write an expression for the total revenue?
- Read each word phrase and sort it into the correct algebraic expression.

Think About It

- What value changes depending on how many people come?
- What stays the same no matter the number of tickets?
- How would you calculate the total if 10 tickets are sold?

My Notes

Guided Examples

Example 1

Which expression represents 'the product of 6 and a number n'?

Solution: 'Product' means multiplication, so the product of 6 and n is $6n$.

Answer: A. $6n$

Example 2

Which expression represents '9 less than a number y'?

Solution: 'Less than' means subtract from the number, so it's $y - 9$.

Answer: A. $y - 9$

Example 3

Which expression represents 'the sum of a number m and 15'?

Solution: 'Sum' means addition, so the sum of m and 15 is $m + 15$.

Answer: A. $m + 15$

Write About the Math

The Writing Revolution

I can explain my expression using the words variable, coefficient, constant, and algebraic expression.

1. Kernel Sentence subject + verb

Model: Algebraic Expression is a math phrase that has at least one letter.

Expresión algebraica es una frase matemática que tiene al menos una letra.

Write a kernel sentence about algebraic expression. Use a subject and a verb.

Escribe una oración base sobre expresión algebraica. Usa un sujeto y un verbo.

2. Sentence Expansion because · but · so

Kernel: Algebraic Expression matters in math

Expresión algebraica importa en matemáticas

Expand the kernel three ways. Add a reason, a contrast, and a result.

because
porque

Algebraic Expression matters in math because ____.

Expresión algebraica importa en matemáticas porque ____.

but
pero

Algebraic Expression matters in math, but ____.

Expresión algebraica importa en matemáticas, pero ____.

so
entonces

Algebraic Expression matters in math, so ____.

Expresión algebraica importa en matemáticas, entonces ____.

3. Sentence Types 4 ways to write a math idea

Statement
Afirmación

Tell one true fact about algebraic expression.
Di un hecho verdadero sobre algebraic expression.

Algebraic expression ____.

Question
Pregunta

Ask a question about algebraic expression.
Haz una pregunta sobre algebraic expression.

How does ____ ?

¿Cómo ____ ?

Exclamation
Exclamación

Show excitement about algebraic expression.
Muestra entusiasmo sobre algebraic expression.

Wow, ____ !

¡Guau, ____ !

Command
Mandato

Tell a partner what to do with algebraic expression.
Dile a un compañero qué hacer con algebraic expression.

First, ____ .

Primero, ____ .

4. Explain Your Reasoning use a sentence starter

The words ____ **mean** ____ .

Las palabras ____ *significan* ____ .

My expression is ____ .

Mi expresión es ____ .

I would write one to ____ .

Escribiría una para ____ .

Try It

Solve on your own. Check the answer key when you are done.

1. Which expression represents 'the sum of a number m and 15'?

- A. $m + 15$
- B. $m - 15$
- C. $15m$
- D. $m \div 15$

Show your work:

2. Which key word tells you to multiply?

- A. Product
- B. Sum
- C. Difference
- D. Quotient

Show your work:

Stretch Your Thinking

Level 2 enrichment

Challenge task — explain your reasoning in full sentences.

Write a real-world situation that could be modeled by the expression $4n + 10$. Explain what the variable n represents, what the coefficient 4 means, and what the constant 10 represents.

Sentence starter: Situation: _____. The variable n represents _____. The coefficient 4 means _____ for each _____. The constant 10 represents _____.

Show your work:

Reflect — Exit Ticket

Which expression represents '3 more than twice a number n '?

- A. $2n + 3$
- B. $3n + 2$
- C. $2(n + 3)$
- D. $2 + 3n$

Your answer:

Answer Key & Teacher Guide

1. **Try It 1:** A. $m + 15$ — *'Sum' means addition, so the sum of m and 15 is $m + 15$.*
2. **Try It 2:** A. Product — *'Product' means multiplication. 'Sum' means addition, 'difference' means subtraction, and 'quotient' means division.*
3. **Exit Ticket:** A. $2n + 3$ — *'Twice a number n ' is $2n$. '3 more than' means $+ 3$. So the expression is $2n + 3$.*

Writing (TWR) — what to look for

- **Kernel sentence:** A complete sentence needs a subject and a verb. Example: Algebraic Expression is a math phrase that has at least one letter.
- **Expansion:** *because* gives a reason, *but* shows a contrast or exception, *so* shows a result. Answers vary; each must keep the kernel idea and add the correct kind of detail.
- **Sentence types:** Statement ends with a period, question with "?", exclamation with "!", and a command starts with an action verb (a "bossy" verb).