

Understanding Algebraic Expressions

Build the Language of Algebra

A1-U1-WS1

Name: _____

Date: _____

Period: _____

I can identify the parts of an algebraic expression and explain what the expression means.

Step 1: Expression or Equation?

EXPRESSION

$$3x + 7$$

No equal sign

EQUATION

$$3x + 7 = 22$$

Contains an equal sign

1. Circle one: $3x + 7$ EXPRESSION EQUATION

2. Circle one: $5y - 2 = 18$ EXPRESSION EQUATION

Sentence frame: It is an _____ because it _____.

Step 2: Label the Parts

coefficient

variable

constant

$$4x + 7$$

3. What is the coefficient in $6x + 9$?

4. What is the constant in $4y - 11$?

5. What is the invisible coefficient in $-x$?

THE INVISIBLE 1

No number in front of a variable?

The coefficient is 1.

$$x = 1x$$

$$-x = -1x$$

One group of x is written simply as x .

Step 3: Recognize Terms

8

number by itself

$3x$

number and variable

$-5x^2$

coefficient + power

ab

variables multiplied

6. How many terms are in $5x^2 - 3x + 8$?

7. List the terms. Keep each negative sign with its term.

Terms are building blocks. The + or - signs separate them; multiplication does not.

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Step 4: Translate Algebra Into Words

$3x$

three times x
or three times a number

then

$+ 5$

plus five

Complete wording: "Three times x , plus five."

8. Write an expression: twice a number plus seven.

9. Write $3x + 5$ in words. Remember to name what is multiplied by 3.

Step 5: Explain a Real Situation

YOUR MUSIC



$12 + 3m$

total subscription cost

MUSIC PLAN BILL

Sign-up fee	\$12
Monthly charge	$\$3 \times m$
TOTAL	$12 + 3m$

10. Complete: 12 is the _____. 3 is the _____. m represents _____.

TEACHER CHECKPOINT

Questions 1-10 are the core assignment. Continue only when your teacher asks.

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Step 6: Apply, Analyze, and Explain

11. EXPRESSION OR EQUATION?

$$2m + 9 = m - 4$$

Circle one: EXPRESSION EQUATION

How do you know? _____

12. TERM TRAIN

$$\boxed{7a} - \boxed{4b} + \boxed{10}$$

Number of terms: _____

13. FIX THE MISTAKE

A student says: "The terms in $6x - 9$ are $6x$ and 9 ." What must be fixed?

Step 7: Translate and Use Context

14. WORDS TO ALGEBRA

Seven less than twice a number

Build it: twice a number $\rightarrow$ subtract 7

Expression: _____

15. RIDE COST

$$4 + 2m$$

4 = starting fee

2 = cost per mile

m = miles

What does the entire expression calculate?

16. GAMING CLUB RECEIPT

LEVEL UP GAMING

Membership	\$20
Visits	$\$6 \times v$
TOTAL	?

Use the receipt to write an expression for the total.

Expression: _____

Variable: _____ **Coefficient:** _____ **Constant:** _____

Explain what the expression means:

SELF-CHECK

[] I named every variable. [] I kept negative signs with terms. [] I explained each part.