

# Algebra Word Detectives

*Spot the parts of algebra statements.*

**GRADE 6 • 6.PFA.3.a**

**6.PFA.3.a** "Identify and develop examples of the following algebraic vocabulary: equation, variable, expression, term, and coefficient."

NAME \_\_\_\_\_

DATE \_\_\_\_\_

## NAME THE PARTS

An expression has numbers, variables, and operations, but it does not have an equals sign. An equation has an equals sign. A variable is a letter that can stand for a number, a term is one part separated by + or -, and a coefficient is the number multiplied by a variable.

## WORKED EXAMPLE

Identify the equation, variable, coefficient, and terms in  $8x + 6 = 30$ .

1. The equals sign shows that  $8x + 6 = 30$  is an equation.
2. The variable is  $x$ , and the coefficient is 8 because 8 multiplies  $x$ .
3. The terms in the left expression are  $8x$  and 6.

**Answer: Equation:  $8x + 6 = 30$ ; variable:  $x$ ; coefficient: 8; terms:  $8x$  and 6.**

## PRACTICE 6 problems

**1** In  $5x + 12$ , name the variable.

ANSWER \_\_\_\_\_

**2** In  $7x - 2$ , name the coefficient.

ANSWER \_\_\_\_\_

**3** In the expression  $3x + 11$ , list the terms.

ANSWER \_\_\_\_\_

**4** Is  $14 + x$  an expression or an equation?

ANSWER \_\_\_\_\_

**5** Is  $2x + 1 = 17$  an expression or an equation?

ANSWER \_\_\_\_\_

**6** Write an expression with variable  $x$ , coefficient 5, and constant 13.

ANSWER \_\_\_\_\_

## APPLY IT Show your work

- 1** A game club earns 15 points for each round it plays. It also earns 3 bonus points. Write an expression for the total points after  $x$  rounds. Then name the variable, coefficient, and terms.

WORK SPACE

ANSWER \_\_\_\_\_

- 2** An art club starts with \$25. It earns \$7 for each ticket it sells and wants to have \$53 in all. Write an equation that represents  $x$  tickets sold. Then name the variable, coefficient, and the terms in the left expression. Do not solve the equation.

WORK SPACE

ANSWER \_\_\_\_\_

## CHALLENGE One step up

### CHALLENGE

Maya says that  $12x + 5 = 41$  is an expression because it has numbers and  $x$ . Is Maya correct? Explain your reasoning. Then name the variable, coefficient, and terms in the left expression.

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## PART 1 • PRACTICE

| # | PROBLEM                                                              | ANSWER                      |
|---|----------------------------------------------------------------------|-----------------------------|
| 1 | In $5x + 12$ , name the variable.                                    | <b>x</b>                    |
| 2 | In $7x - 2$ , name the coefficient.                                  | <b>7</b>                    |
| 3 | In the expression $3x + 11$ , list the terms.                        | <b>3x and 11</b>            |
| 4 | Is $14 + x$ an expression or an equation?                            | <b>expression</b>           |
| 5 | Is $2x + 1 = 17$ an expression or an equation?                       | <b>equation</b>             |
| 6 | Write an expression with variable x, coefficient 5, and constant 13. | <b><math>5x + 13</math></b> |

## PART 2 • APPLY IT

1.  **$15x + 3$ ; variable: x; coefficient: 15; terms: 15x and 3.** Multiply 15 points by x rounds, then add the 3 bonus points. Identify each part of the expression.
2.  **$7x + 25 = 53$ ; variable: x; coefficient: 7; terms in the left expression: 7x and 25.** Add the money from x tickets to the \$25 the club already has. Set that total equal to \$53.

## CHALLENGE

**Maya is not correct.  $12x + 5 = 41$  is an equation because it has an equals sign. The variable is x, the coefficient is 12, and the terms in the left expression are 12x and 5.**

Accept terms in either order. For problem 6, accept  $13 + 5x$  because it is an equivalent expression.