3.1 Algebraic Expressions

## **ESSENTIAL QUESTION**

How can you write and evaluate an expression that represents a real-life problem?

1

2

## **COMMON CORE STATE STANDARDS**

6.EE.2c Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations).

5 + 7 Expression

Algebraic Expression

ALGEBRAIC EXPRESSION > an expression that may contain numbers, operations, and one or more symbols (letters)

Parts of an Algebraic expression separated by addition and subtraction symbols are called TERMS

 $2x^2 + 5 - x$ 2x2 is a term 5 is a term x is a term

3

**VARIABLE** > A symbol that represents one or more numbers.

COEFFICIENT-> Number in front of a variable.

CONSTANT-> A term without a variable.

EXAMPLE []] Identifying Parts of an Algebraic Expression

Identify the terms, coefficients, and constants in each expression.

5x + 3

Coefficients 5 Constants > 3

5

**EXAMPLE** (1) Identifying Parts of an Algebraic Expression

Identify the terms, coefficients, and constants in each expression.

 $2r^2 + y + 3$ 

Terms => 2r2, 4,3 Coefficients >> 2,1 Constants >> 3

on Your Own

Identify the terms, coefficients, and constants in each expression.

12 + 10c

On Your Own

Identify the terms, coefficients, and constants in each expression.

Terms > 15, 3w, \frac{1}{2}

coefficients > 3

constants > 15, \frac{1}{2}

On Your Own

Identify the terms, coefficients, and constants in each expression.

Terms > 2,92 Coefficients > 9 Constants = none

**EXAMPLE** Writing Algebraic Expressions Using Exponents

Write the expression using exponents.  $d \cdot d \cdot d \cdot d$ 

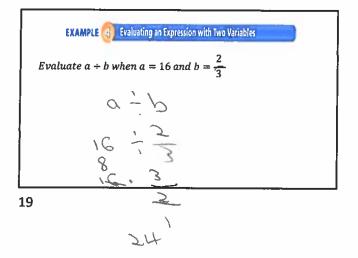
**EXAMPLE** Writing Algebraic Expressions Using Exponents

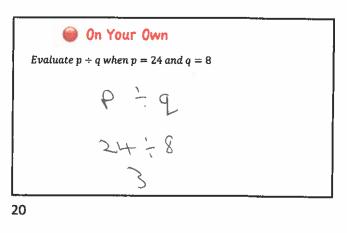
Write the expression using exponents.

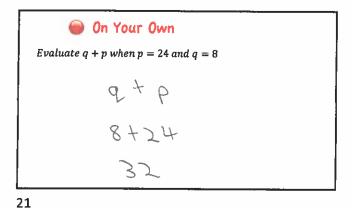
 $1.5 \cdot h \cdot h \cdot h$ 

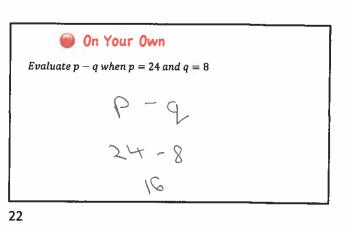
11

12







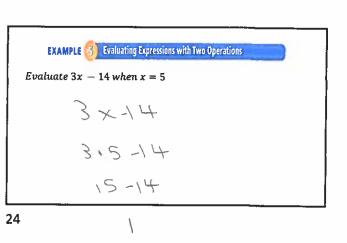


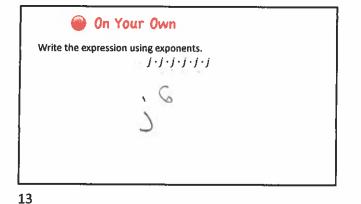
On Your Own

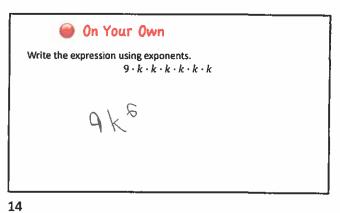
Evaluate pq when p = 24 and q = 8

P Q

24,8



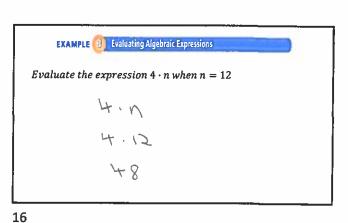




EXAMPLE 3 Evaluating Algebraic Expressions

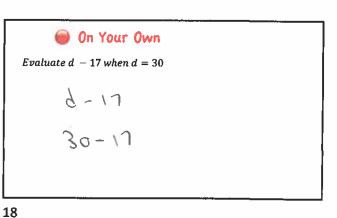
Evaluate the expression k + 10 when k = 25 k + 10 k + 10

15



On Your Own

Evaluate 24 + c when c = 9 24 + 9



17

2

