Lesson 10: Writing and Expanding Multiplication Expressions

Classwork

Example 1

Write each expression using the fewest number of symbols and characters. Use math terms to describe the expressions and parts of the expressions.

a. $6 \times b$

b. $4 \cdot 3 \cdot h$

c. $2 \times 2 \times 2 \times a \times b$

d. $5 \times m \times 3 \times p$

e. $1 \times g \times w$

Example 2

To expand multiplication expressions, we will rewrite the expressions by including the " · " back into the expressions.

a. $5g$

b. $7abc$

c. $12g$

d. $3h \cdot 8$

e. $7g \cdot 9h$

Example 3

a. Find the product of $4f \cdot 7g$.

b. Multiply $3de \cdot 9yz$.

c. Double the product of $6y$ and $3bc$.

Lesson Summary

AN EXPRESSION IN EXPANDED FORM: An expression that is written as sums (and/or differences) of products whose factors are numbers, variables, or variables raised to whole number powers is said to be in *expanded form*. A single number, variable, or a single product of numbers and/or variables is also considered to be in expanded form.

Problem Set

1. Rewrite the expression in standard form (use the fewest number of symbols and characters possible).
   a. $5 \cdot y$
   b. $7 \cdot d \cdot e$
   c. $5 \cdot 2 \cdot 2 \cdot y \cdot z$
   d. $3 \cdot 3 \cdot 2 \cdot 5 \cdot d$

2. Write the following expressions in expanded form.
   a. $3g$
   b. $11mp$
   c. $20yz$
   d. $15abc$

3. Find the product.
   a. $5d \cdot 7g$
   b. $12ab \cdot 3cd$