NAME _____ DATE _____ PERIOD _____

1-4 Study Guide and Intervention

Order of Operations

Order of Operations

1. Simplify the expressions inside grouping symbols, like parentheses.
2. Find the value of all powers.
3. Multiply and divide in order from left to right.
4. Add and subtract in order from left to right.

Example 1 **Find the value of $48 \div (3 + 3) - 2^2$.**

$48 \div (3 + 3) - 2^2 = 48 \div 6 - 2^2$ Simplify the expression inside the parentheses.
$= 48 \div 6 - 4$ Find 2^2.
$= 8 - 4$ Divide 48 by 6.
$= 4$ Subtract 4 from 8.

Example 2 **Write and solve an expression to find the total cost of planting flowers in the garden.**

Item	Cost Per Item	Number of Items Needed
pack of flowers	\$4	5
bag of dirt	\$3	1
bottle of fertilizer	\$4	1

Words	cost of 5 flower packs	plus	cost of dirt	plus	cost of fertilizer
Expression	$5 \times \$4$	+	\$3	+	\$4

$5 \times \$4 + \$3 + \$4 = \$20 + \$3 + \$4$
$= \$23 + \$4$
$= \$27$

The total cost of planting flowers in the garden is \$27.

Exercises

Find the value of each expression.

1. $7 + 2 \times 3$ **2.** $12 \div 3 + 5$ **3.** $16 - (4 + 5)$

4. $8 \times 8 \div 4$ **5.** $10 + 14 \div 2$ **6.** $3 \times 3 + 2 \times 4$

7. $80 - 8 \times 3^2$ **8.** $11 \times (9 - 2^2)$ **9.** $25 \div 5 + 6 \times (12 - 4)$

10. GARDENING Refer to Example 2 above. Suppose that the gardener did not buy enough flowers and goes back to the store to purchase four more packs. She also purchases a hoe for \$16. Write an expression that shows the total amount she spent to plant flowers in her garden.