NAME _____ DATE _____ PERIOD _____

1-6 Study Guide and Intervention

Algebra: Variables and Expressions

Class Notes

- A **variable** is a symbol, usually a letter, used to represent a number.
- Multiplication in algebra can be shown as $4n$ or $4 \times n$.
- **Algebraic expressions** are combinations of variables, numbers, and at least one operation.

EXAMPLE 1 **Evaluate $35 + x$ if $x = 6$.**

$35 + x = 35 + 6$	Replace x with 6.
$= 41$	Add 35 and 6.

EXAMPLE 2 **Evaluate $y + x$ if $x = 21$ and $y = 35$.**

$y + x = 35 + 21$	Replace x with 21 and y with 35.
$= 56$	Add 35 and 21.

EXAMPLE 3 **Evaluate $4n + 3$ if $n = 2$.**

$4n + 3 = 4 \times 2 + 3$	Replace n with 2.
$8 + 3$	Find the product of 4 and 2.
11	Add 8 and 3.

EXAMPLE 4 **Evaluate $4n - 2$ if $n = 5$.**

$4n - 2 = 4 \times 5 - 2$	Replace n with 5.
$20 - 2$	Find the product of 4 and 5.
18	Subtract 2 from 20.

EXERCISES

Evaluate each expression if $y = 4$.

1. $3 + y$ **2.** $y + 8$ **3.** $4 \times y$

4. $9y$ **5.** $15y$ **6.** $300y$

7. y^2 **8.** $y^2 + 18$ **9.** $y^2 + 3 \times 7$

Evaluate each expression if $m = 3$ and $k = 10$.

10. $16 + m$ **11.** $4k$ **12.** $m \times k$

13. $m + k$ **14.** $7m + k$ **15.** $6k + m$

16. $3k - 4m$ **17.** $2mk$ **18.** $5k - 6m$

19. $20m \div k$ **20.** $m^3 + 2k^2$ **21.** $k^2 \div (2 + m)$