

Study Guide and Intervention

Solving Equations

Verbal Expressions to Algebraic Expressions The chart suggests some ways to help you translate word expressions into algebraic expressions. Any letter can be used to represent a number that is not known.

Word Expression	Operation
and, plus, sum, increased by, more than	addition
minus, difference, decreased by, less than	subtraction
times, product, of (as in $\frac{1}{2}$ of a number)	multiplication
divided by, quotient	division

Example 1 Write an algebraic expression to represent 18 less than the quotient of a number and 3.

$$\frac{n}{3} - 18$$

Example 2 Write a verbal sentence to represent $6(n - 2) = 14$.

Six times the difference of a number and two is equal to 14.

Exercises

Write an algebraic expression to represent each verbal expression.

- the sum of six times a number and 25
- four times the sum of a number and 3
- 7 less than fifteen times a number
- the difference of nine times a number and the quotient of 6 and the same number
- the sum of 100 and four times a number
- the product of 3 and the sum of 11 and a number
- four times the square of a number increased by five times the same number
- 23 more than the product of 7 and a number

Write a verbal sentence to represent each equation.

9. $3n - 35 = 79$

10. $2(n^3 + 3n^2) = 4n$

11. $\frac{5n}{n+3} = n - 8$