

Variables and Expressions

Addition

and
increased
more
more than
plus
sum
total

Subtraction

decreased
difference
less
less than
left
lower than
minus

* You cannot always subtract the numbers in the order that they appear in the problem.

Multiplication

Double
Half
Product
Times
Triple
Twice

Division

Divide into, by, or among
quotient

3

Example 3: Writing Expressions with two operations

Word Phrase	Expression
A. 3 more than twice a number x	$2x + 3$
B. 9 less than the quotient of 6 and a number x	$\frac{6}{x} - 9$
C. the product of 4 and the sum of a number x and 7	$4(x + 7)$

Example 4: Using Words for an Expression

Expression: $3x$ ← a number and a variable
 $3 \cdot x$ side by side indicate a product

Words: three times a number x

or
 the product of 3 and a number x

Example 5: Writing a Rule to Describe a Pattern

The table below shows how the height above the floor of a house of cards depends on the number of levels. What is a rule for the height? Give the rule in words and as an algebraic expression.

# of levels	Height (in.)
2	$(3.5 \cdot 2) + 24$
3	$(3.5 \cdot 3) + 24$
4	$(3.5 \cdot 4) + 24$
n	?

Words: Multiply the number of levels by 3.5 and add 24.

Algebraic

Expression: $3.5n + 24$