TOPIC: TRANSLATING WORD PHRASES TO ALGEBRAIC EXPRESSIONS

Translating Word Phrases to Expressions

◆ To translate phrases to algebraic expressions, identify *keywords* to represent with _____ & _____.

Operation/Symbol	Common Keywords	Example
Variable	*A number, a quantity, (an unknown) value*	
Addition	*Sum, _____ by, _____ than, plus*	Five more than a number
Subtraction	*Difference, _____ by, _____ than, minus*	A number decreased by 7
Multiplication	*_____, times, of, twice/double/triple*	The product of an unknown value and $\frac{1}{2}$
Division	*_____, divided by, per, out of*	Eleven divided by a number

EXAMPLE Translate the following phrase into an algebraic expression.

The quotient of a number and three increased by seven.

PRACTICE Let A be the number. Translate the following phrases into algebraic expressions.

$(\boldsymbol{A})$ the sum of 17 and a number

$(\boldsymbol{B})$ negative nineteen times a number

$(\boldsymbol{C})$ a number divided by 50

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PRACTICE Write the following as an algebraic expression.

$(\boldsymbol{A})$ three times a number plus 8

$(\boldsymbol{B})$ 11 less than triple a number

$(\boldsymbol{C})$ negative three times the value of x increased by 5

EXAMPLE Write an algebraic expression that represents each situation.

$(\boldsymbol{A})$ Noah buys x notebooks for \$3 each and a pencil for \$1.50. Write an algebraic expression that represents the total cost.

$(\boldsymbol{B})$ A water tank contains 10 liters of water. It is being filled at a rate of r liters per minute. Write an expression that represents the amount of water in the tank after t minutes.