

# Translating Verbal Phrases to Algebraic Expressions

To translate statements into expressions and equations:

- Identify \_\_\_\_\_ that indicate the operation.
- Write the numbers/variables in the correct order.

## KEY WORDS

The **SUM** of \_\_\_\_\_ and \_\_\_\_\_ : \_\_\_\_\_  
 The **DIFFERENCE** of \_\_\_\_\_ and \_\_\_\_\_ : \_\_\_\_\_  
 The **PRODUCT** of \_\_\_\_\_ and \_\_\_\_\_ : \_\_\_\_\_  
 The **QUOTIENT** of \_\_\_\_\_ and \_\_\_\_\_ : \_\_\_\_\_

Write each verbal phrase as an algebraic expression.

- 1) the sum of 8 and  $t$
- 2) the quotient of  $g$  and 15
- 3) the product of 5 and  $b$
- 4) the difference of 32 and  $x$

## KEY WORDS

**LESS THAN** (the first number subtracted from the second!)

**MORE THAN** (the first number added to the second!)

SWITCH THE  
ORDER OF  
THE TERMS!

Write the phrase five dollars less than Jennifer earned as an algebraic expression.

Key Words	<i>five dollars less than Jennifer earned</i>
Variable	Let $d$ represent # of \$ Jennifer earned
Expression	$d - 5$

- 5) Eight more than  $x$
- 6) Six less than  $p$
- 7) 14 less than  $f$
- 8)  $p$  more than 10
- 9) 3 more runs than Pirates scored
- 10) 12 less than some number

## KEY WORDS

IS, EQUALS, IS EQUAL TO... Substitute with equal sign.

11) Arthur is 8 years younger than Janet

12) Kelly's test score is 6 points higher than Mike's

13) 5 more than a number is 6.

14) The product of 7 and  $b$  is equal to 63.

15) The sum of  $r$  and 45 is 79.

16) The quotient of  $x$  and 7 is equal to 13.

## KEY WORDS

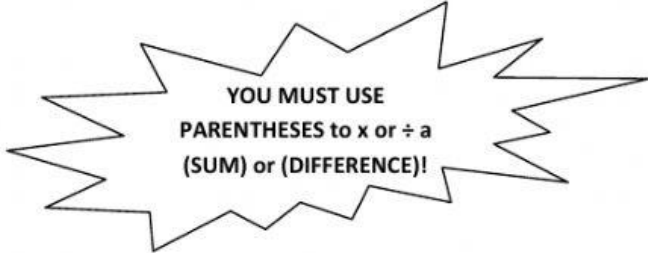
TWICE = DOUBLE = 2 times a number = multiply by 2

HALF = divide the number by 2

17) Twice as many points as Bob

18) Half the age of Sally

## Writing Two-Step Expressions and Equations



YOU MUST USE  
PARENTHESES to  $\times$  or  $\div$  a  
(SUM) or (DIFFERENCE)!

19) Six less than twice a number  $x$  is four

20) Four more than the product of 2 and  $a$

21) Nine times a number decreased by four

22) Two less than the quotient of 15 and a number

23) Five times the sum of six and some number

24) The quotient of 7 and  $d$  decreased by 9

25) Twice the difference of  $y$  and three

26) The difference of 9 and the quotient of  $s$  and  $-4$

27) The **sum of 5 and** product of 7 and  $x$

28) Three more than quotient of 5 and  $a$

29) The product of 4 and the difference of  $x$  and 3

30) The product of the difference of  $x$  and 3 and 4

Addition Phrases	Expression	Subtraction Phrases	Expression
8 <b>more than</b> a number The <b>sum</b> of 8 and a number x <b>increased by</b> 8 the <b>total</b> of x and 8	$x + 8$	The <b>difference</b> of r and 6 r <b>decreased by</b> 6 6 <b>less than</b> a number 6 <b>subtracted from</b> a number	$r - 6$
Multiplication Phrases	Expression	Division Phrases	Expression
<b>Twice</b> a number The <b>product</b> of 2 and n 2 <b>multiplied by</b> a number 2 <b>times</b> a number	$2n$	The <b>quotient</b> of z and 3 A number <b>divided by</b> 3 The <b>ratio</b> of z and 3	$\frac{z}{3}$

Translate each verbal phrase into an algebraic expression or equation.

- 1) Seven less than a number is 15
- 2) The total of 5 and c
- 3) 7 less than m
- 4) The sum of a number and 16 is 23
- 5) the score increased by 8 points
- 6) The quotient of w and 10 is equal to 7
- 7) 17 more than some number is 57
- 8) \$12 less than the original price is \$48

Translate each algebraic expression or equation into a verbal phrase.

- 9)  $9y$  \_\_\_\_\_
- 10)  $x - 8 = 14$  \_\_\_\_\_
- 11)  $\frac{y}{12} = 24$  \_\_\_\_\_
- 12)  $k + 12$  \_\_\_\_\_

**Translate each verbal phrase into an algebraic expression or equation.**

13) Seven more than the quotient of a number and 2 is 10.

14) Five less than twice a number is 7.

15) One less than the product of four and a number is 11.

16) Six less than six times a number is 12.

17) Ten more than the quotient of a number and 3 is 12.

18) Seven more than twice a number is 1.

19) The sum of 9 and the quotient of  $x$  and 7 is 11.

20) The product of 8 and the difference of  $n$  and 3.

**Translate each expression or equation into a verbal phrase.**

21)  $2(5 + t) = 8$  \_\_\_\_\_

22)  $\frac{a}{-2} - 10 = 3$  \_\_\_\_\_

23)  $7(b + 2)$  \_\_\_\_\_

24)  $2c - 5$  \_\_\_\_\_

25)  $17(y + 11)$  \_\_\_\_\_

26)  $3b - 8$  \_\_\_\_\_

27. The sum of a number and 16 is equal to 45.

28. The product of 6 and  $m$  is 216.

29. The difference of 100 and  $x$  is 57.

30. The quotient of  $z$  and 10 increased by 32.

31. \$18 less than the original price is \$48.

32. 17 more than some number is equal to 85.

33. The number of members divided by 6 is 15.

34. The total of Joshua's savings and \$350 is \$925.