

Topic 1-1 Translating Verbal Phrases



Common Translation Words

Phrase	Operation
Sum, More than, Increased by	
Difference, Less than, decreased by	
Product, Of, Multiplied by	
Quotient	
Twice	

Example 1: Translate the following into algebraic expressions

- a) The sum of a number and 5 b) The quotient of a number and 10
- c) The product of 6 and a number d) The difference of a number and 8.
- e) $\frac{1}{2}$ of a number f) Twice a number

Turn Around Words

Word	Phrase	Example
Than	Six less than a number	
From	10 subtracted from a number	

Example 2: Circle any turn-around words and then translate the phrase into an algebraic expression

- a) 12 more than a number b) 5 less than twice a number
- c) 3 less than 4 times a number e) 11 plus the quotient of a number and 7

The presence of certain phrases in a verbal expression require the use of PARENTHESES. They are:



1) _____

2) _____

3) _____

Example 3: Translate each of the following using parentheses in the appropriate place.

a) Three times the difference of a number and twelve

b) 5 times the sum of a and b .

c) Twice the difference of a number and 10.

Name: _____ Date: _____

Identifying Parts and Translating Expressions

1. Identify each term, coefficient, constant, and factor in $5x^2 + 3x + 12$.

2. Write an expression with 4 terms, containing the coefficients 3, 6, and 9.

Translate each verbal expression to an algebraic expression.

3. Eight more than 3 times a number

4. The difference of 10 and a number

5. The quotient of 12 and a number

6. 15 less than twice a number

7. Three-fourths times the square of a number

8. The product of 5 and the cube of a number increased by the difference of 6 and x

9. Half the sum of x and y decreased by one-third of y

10. The sum of a number and six, divided by eight

Translate each algebraic expression to a verbal expression.

11. $25 - x$

12. $x^4 - 12$

13. $3 + \frac{1}{2}x$

14. $8^2 - x$

15. $\frac{6-x}{13}$

16. $25(6+x)$

Name _____

Date _____

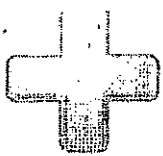
Period _____

Why Did the Cow Keep Jumping Over the Barrel?

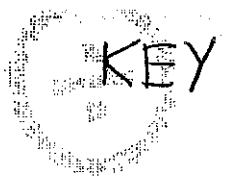
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28

Translate each phrase below into an algebraic expression and find your answer in the corresponding answer column. Write the letter of that exercise in the box that contains the number of the answer.

<p>E 3 times a number</p> <p>O 3 more than a number</p> <p>S 3 decreased by a number</p> <p>R 3 less than a number</p> <p>A one third of a number</p> <p>I 8 more than 3 times a number</p> <p>N 8 less than 3 times a number</p>	<p>18 $x + 3$</p> <p>15 $3x - 8$</p> <p>19 $x - 3$</p> <p>12 $3x + 8$</p> <p>3 $3x$</p> <p>25 $3 - x$</p> <p>5 $x/3$</p>
<p>A 7 less than 4 times a number</p> <p>S 7 decreased by 4 times a number</p> <p>G 9 less than twice a number</p> <p>N 9 decreased by twice a number</p> <p>O 9 less than half a number</p> <p>I 7 times a number, increased by 4</p> <p>R 7 times a number, increased by 4 times the number</p>	<p>1 $7 - 4x$</p> <p>16 $2x - 9$</p> <p>14 $7x + 4$</p> <p>9 $4x - 7$</p> <p>8 $7x + 4x$</p> <p>24 $9 - 2x$</p> <p>27 $x/2 - 9$</p>
<p>S 5 times a number, increased by 8</p> <p>A 5 times the sum of a number and 8</p> <p>H 5 more than 8 times a number</p> <p>O 8 times the sum of a number and 5</p> <p>C Twice the sum of 5 times a number and 8</p> <p>T 2 more than five eighths of a number</p> <p>W 8 times the sum of twice a number and 5</p>	<p>22 $8(x + 5)$</p> <p>4 $8(2x + 5)$</p> <p>2 $8x + 5$</p> <p>13 $2(5x + 8)$</p> <p>6 $5x + 8$</p> <p>20 $5(x + 8)$</p> <p>11 $5/8x + 2$</p>
<p>T 9 meters higher than altitude x</p> <p>F 15 meters per second slower than speed x</p> <p>P 15 degrees hotter than temperature x</p> <p>O 9 meters shorter than twice length x</p> <p>C 9 years older than twice age x</p> <p>H \$9 cheaper than 4 times price x</p> <p>M 9 centimeters less than three fourths of length x</p>	<p>7 $x + 15$</p> <p>28 $x + 9$</p> <p>26 $4x - 9$</p> <p>23 $2x - 9$</p> <p>10 $2x + 9$</p> <p>17 $x - 15$</p> <p>21 $3/4x - 9$</p>



Topic 1-1 Translating Verbal Phrases



Common Translation Words

Phrase	Operation
Sum, More than, increased by	Addition
Difference, Less than, decreased by	Subtraction
Product, Of, Multiplied by	Multiplication
Quotient	Division
Twice	Multiplication

Example 1: Translate the following into algebraic expressions

a) The sum of a number and 5

$$x + 5$$

b) The quotient of a number and 10

$$\frac{x}{10}$$

c) The product of 6 and a number

$$6x$$

d) The difference of a number and 8.

$$x - 8$$

e) $\frac{1}{2}$ of a number

$$\frac{x}{2}$$

f) Twice a number

$$2x$$

Turn Around Words

Word	Phrase	Example
Than	Six less than a number	$x - 6$
From	10 subtracted from a number	$x - 10$

Example 2: Circle any turn-around words and then translate the phrase into an algebraic expression

a) 12 more than a number

$$x + 12$$

b) 5 less than twice a number

$$2x - 5$$

c) 3 less than 4 times a number

$$4x - 3$$

e) 11 plus the quotient of a number and 7

$$11 + \frac{x}{7}$$

The presence of certain phrases in a verbal expression require the use of PARENTHESES. They are:

- 1) times the sum of
- 2) times the difference of
- 3) times the quotient of



Example 3: Translate each of the following using parentheses in the appropriate place.

- a) Three times the difference of a number and twelve

$$3(x - 12)$$

- b) 5 times the sum of a and b .

$$5(a + b)$$

- c) Twice the difference of a number and 10.

$$2(x - 10)$$

Name: _____ Date: _____

Identifying Parts and Translating Expressions

1. Identify each term, coefficient, constant, and factor in $5x^2 + 3x + 12$.

5 and x^2

Terms: $5x^2, 3x, 12$ Coefficients: 5, 3 Constant: 12 Factor: 3 and x

2. Write an expression with 4 terms, containing the coefficients 3, 6, and 9.

example: $3x^3 + 6x^2 + 9x + 15$

Translate each verbal expression to an algebraic expression.

3. Eight more than 3 times a number

$$3x + 8$$

4. The difference of 10 and a number

$$10 - x$$

5. The quotient of 12 and a number

$$\frac{12}{x}$$

6. 15 less than twice a number

$$2x - 15$$

7. Three-fourths times the square of a number

$$\frac{3}{4}x^2$$

8. The product of 5 and the cube of a number increased by the difference of 6 and x

$$5x^3 + (6 - x)$$

9. Half the sum of x and y decreased by one-third of y

$$\frac{x+y}{2} - \frac{y}{3}$$

10. The sum of a number and six, divided by eight

$$\frac{x+6}{8}$$

Translate each algebraic expression to a verbal expression.

11. $25 - x$

The difference of 25 and a number

12. $x^4 - 12$

12 subtracted from a number to the fourth power

13. $3 + \frac{1}{2}x$ 3 plus half of a number

14. $8^2 - x$

8 squared less than a number

15. $\frac{6-x}{13}$ The difference of 6 and a number, divided by 13

16. $25(6+x)$

25 times the sum of 6 and a number

Name _____

Date _____

Period _____

Why Did the Cow Keep Jumping Over the Barrel?

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
S	H	E	W	A	S	P	R	A	C	T	I	C	I	N	G	F	O	R	A	M	O	N	S	H	O	T		

Translate each phrase below into an algebraic expression and find your answer in the corresponding answer column. Write the letter of that exercise in the box that contains the number of the answer.

E	3 times a number	$3x$	18	$x + 3$	S	5 times a number, increased by 8	$5x + 8$	22	$8(x + 5)$
O	3 more than a number	$x + 3$	15	$3x - 8$	A	5 times the sum of a number and 8	$5(x + 8)$	4	$8(2x + 5)$
S	3 decreased by a number	$3 - x$	19	$x - 3$	H	5 more than 8 times a number	$8x + 5$	2	$8x + 5$
R	3 less than a number	$x - 3$	12	$3x + 8$	O	8 times the sum of a number and 5	$8(x + 5)$	13	$2(5x + 8)$
A	one third of a number	$\frac{x}{3}$	3	$3x$	C	Twice the sum of 5 times a number and 8	$2(5x + 8)$	6	$5x + 8$
I	8 more than 3 times a number	$3x + 8$	25	$3 - x$	T	2 more than five eighths of a number	$\frac{5}{8}x + 2$	20	$5(x + 8)$
N	8 less than 3 times a number	$3x - 8$	5	$x/3$	W	8 times the sum of twice a number and 5	$8(2x + 5)$	11	$5/8x + 2$
A	7 less than 4 times a number	$4x - 7$	1	$7 - 4x$	T	9 meters higher than altitude x	$x + 9$	7	$x + 15$
S	7 decreased by 4 times a number	$7 - 4x$	16	$2x - 9$	F	15 meters per second slower than speed x	$x - 15$	28	$x + 9$
G	9 less than twice a number	$2x - 9$	14	$7x + 4$	P	15 degrees hotter than temperature x	$x + 15$	26	$4x - 9$
N	9 decreased by twice a number	$9 - 2x$	9	$4x - 7$	O	9 meters shorter than twice length x	$2x - 9$	23	$2x - 9$
O	9 less than half a number	$\frac{x}{2} - 9$	8	$7x + 4x$	C	9 years older than twice age x	$2x + 9$	10	$2x + 9$
I	7 times a number, increased by 4	$7x + 4$	24	$9 - 2x$	H	\$9 cheaper than 4 times price x	$4x - 9$	17	$x - 15$
R	7 times a number, increased by 4 times the number	$7x + 4x$	27	$x/2 - 9$	M	9 centimeters less than three fourths of length x	$\frac{3}{4}x - 9$	21	$3/4x - 9$

SHOW ANSWERS next to each statement

KEY