Ones to watch:

- When the terms "less than" or "subtracted from" are used the number or variable will come after the operation.
- When the term "more than" is used, because it indicates addition, the order the terms are written in will not matter. (More about this in a few days when we discuss properties!)
- When the term quotient is used it typically has "and" as part of the words. This does not signify addition but which numbers/variables are being divided.
- When the term "quantity" is used it means one of the factors in an expression and is written in parenthesis.

Examples: "10 less than x" would be written $x - 10$

"5 subtracted from y" would be written $y - 5$

"the quotient of x and 2" would be written $\frac{x}{2}$

"the quantity of a number plus 4 times 9" would be written $9(x + 4)$

Try:

1) The quotient of a number and 3 ÷ x 3 $x \div 3$
2) 17 subtracted from a number $x - 17$
3) 5 more than twice a number $2x + 5$
4) 8 less than quadruple a number
5) 6 times the quantity of 4 divided by a number $6 \cdot (4 \div x)$

Translating Word Phrases and Speaking Algebraically

With a partner *try* translating the following into expressions:

1. 287 plus 932 $287 + 932$
2. a number divided by 14 $x \div 14$
3. 3 more than the quotient of a number and 6 $x \div 6 + 3$
4. 7 subtracted from a number $x - 7$
5. 9 less than a number
6. 6 times the quantity of a number minus 5 $6(x - 5)$

Let's talk:
(Capture notes from the class discussion of the answers to expressions above.)

Plus And
Total of
Altogether Increased by
Add
a
Together More Than
Added to In all Makes
Combined
Sum

Subtract Gave Take Away
Decreased by Fewer Minus
Shared Fewer than Less than
Difference Less

Times
Double
Triple
Product
Multiplied by
OF
Increased by a Factor
Twice
Multiple

$2 \times \frac{1}{2} = \frac{2}{2} = 1$

$2 \div \frac{1}{2} =$ ◯ $2 \times \frac{2}{1} = 4$

Quotient of Per Ratio of
Divided By Half Divisor
Divided into Percent Split Up

◯

(The Quantity of
Twice the sum of
Times the sum of
Times the difference of
Plus the difference of)

Sort the clue words for each operation.
Click for the answers.

Addition	Subtraction	Mulitiplication	Division
plus	minus	times	quotient
sum	difference	product	divided by
in all	less		equal groups

Answers

Addition	Subtraction	Mulitiplication	Division
sum	difference	product	quotient
plus	minus	times	divided by
in all	less		equal groups

Take 1 minute to add more clue words.

Ones to watch:

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Try:

1) The quotient of a number and 3
2) 17 subtracted from a number
3) 5 more than twice a number
4) 8 less than quadruple a number
5) 6 times the quantity of 4 divided by a number

Translating Word Phrases and Speaking Algebraically

With a partner *try* translating the following into expressions:

1. 287 plus 932
2. a number divided by 14
3. 3 more than the quotient of a number and 6
4. 7 subtracted from a number
5. 9 less than a number
6. 6 times the quantity of a number minus 5

Let's talk:
(Capture notes from the class discussion of the answers to expressions above.)

Translate the following words into an algebraic expression

The product of 5 and a number

Translate the following words into an algebraic expression

Thirteen less than a number

Translate the following words into an algebraic expression

One less than the quotient of a number and 6

$x \div 6 - 1$

Translate the following words into an algebraic expression

Seven less than double a number

$2x - 7$

Translate the following words into an algebraic expression

Twelve times the sum of a number and eight

$12(x + 8)$

Translate the following words into an algebraic expression

Sixteen times the quantity of 7 plus a number

Translate the following words into an algebraic expression

$(x-50)\times 10$

Ten times the difference of a number and fifty

$10(x-50)$

Translate the following expression into words

$$24x$$

24 TIMES A NUMBER

Translate the following expression into words

A NUMBER MINUS 6

$$x - 6$$

Translate the following expression into words

$$5(x+9)$$

5 TIMES THE

Translate the following expression into words

$x - 1^2$

~~a number minus 1 squared~~

$(x - 1)^2$

~~The quantity of a number minus one squared~~

Practice

Write an algebraic expression for each verbal expression. Let x = the number.

1. 5 more than a number
2. 10 decreased by a number

HINT *Decreased* means to subtract.

3. the quotient of 12 and a number
4. 8 times a number
5. subtract 9 from a number
6. multiply a number by 7
7. divide a number by 20
8. the sum of 15 and a number

Write a verbal expression for each algebraic expression.

9. $12s$
10. $y - 3$

REMEMBER The coefficient is a factor of the product.

11. $6 + k$
12. $p \div 5$
13. $8 - m$
14. $32 \div x$

Write an algebraic expression for each verbal expression. Let n = the number.

15. the product of 4 and the sum of 6 and a number
16. 5 more than the quotient of a number and 2
17. the sum of 14 and the product of 8 and a number

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