

Name: _____

Date: _____

Aim: How do we translate words into symbols?

DO NOW:

Place the words in the appropriate box based on the operation that they associate with.

more than	plus	fewer	multiply	is	times
less	add	is equal to	sum	of	quotient
less than	subtract	divide	minus	increased by	out of
equals	product	increased by	out of	decreased by	difference

<p>Addition</p> <p>more than plus add sum increased by</p>	<p>Subtraction</p> <p>fewer less less than subtract minus decreased by difference</p>	<p>Equals</p> <p>is is equal to equals</p>
<p>Multiplication</p> <p>multiply times of product</p>	<p>Division</p> <p>divide quotient out of</p>	

Represent each of the following using symbols.

1. A number x divided by twenty-seven.

$$x \div 27 \quad \text{or} \quad \frac{x}{27}$$

2. Five less than a number y.

$$y - 5$$

SPECIAL RULES:

Switch Order

less than
more than
Subtracted from

USUALLY needs Parentheses

when sum is multiplied by
when difference is multiplied by

3. Twenty increased by a number z.

$$20 + z$$

4. The product of a number w and eighteen is one hundred eighty.

$$18w = 180$$

5. The quotient of a number r and twelve, decreased by six.

$$\frac{r}{12} - 6$$

6. Sixteen more than twice a number g is forty.

$$2g + 16 = 40$$

7. A number c decreased by twelve, divided by fifteen is equal to fourteen.

$$\frac{c-12}{15} = 14$$

8. The difference when a number s is subtracted from nineteen is four.

$$19 - s = 4$$

9. Twice the sum of a number p and twelve.

$$2(p + 12)$$

Connections

10. The admission fee to a carnival is \$3.00 and each ride is \$1.25. Write an expression to represent the total cost at the carnival if you went on r rides. If you have \$15.00 to spend, is it enough to go on 10 rides? Explain your answer.

Expression: $3.00 + 1.25r$

$$3.00 + 1.25(10)$$

$$3.00 + 12.50$$

$$\$15.50$$

No, not enough

11. Jack and Jill plan to rent a kayak. The rental is \$9.00 per hour. Write an expression to represent their cost for h hours. How much would it cost Jack and Jill to rent a kayak for 3 hours?

Expression: $9h$

$$9(3)$$

$$\boxed{\$27}$$

12. Write an expression to find the amount you have left on a \$50 dollar gift card if you spent d dollars. Use your expression to find the amount left after a \$12.88 purchase.

Expression: $50 - d$

$$50 - 12.88$$

$$\boxed{\$37.12}$$

13. A taxi ride costs \$5.00 plus \$0.50 for every mile. Write an expression to represent the cost of a taxi ride of m miles. Use your expression to find the cost of an 11 mile taxi ride.

Expression: $5.00 + 0.50m$

$$5.00 + 0.50(11)$$

$$5.00 + 5.50$$

$$\boxed{\$ 10.50}$$

The
TAKEAWAY

The phrases that require us to switch the order of the terms are less than, more than, and subtracted from.

The phrases that require parentheses are sum and difference.

Extra Practice (If Time...)

Translate the following phrases into an algebraic expression.

1. The sum of p and q . $p + q$
2. The difference of p and q . $p - q$
3. The product of 2 and x . $2x$
4. The quotient of x and 7. $\frac{x}{7}$
5. The sum of a number and five. $x + 5$
6. Twice the sum of a number and 5. $2(x + 5)$
7. Eight less than a number. $x - 8$
8. Eight subtracted from a number. $x - 8$
9. Eight subtracted by a number. $8 - x$
10. The three times the difference of a number and two. $3(x - 2)$

SPECIAL
RULES:

Switch Order

USUALLY needs
Parentheses