Conjecture: A guess based on many observations.
(an educated guess)

Every morning I've come to work there has been a puddle on the sidewalk.

My conjecture: It has rained every night

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Is my conjecture true? NO, IT COULD BE DUE TO SPRINKLERS.

You can prove a conjecture is false if you can find just one example that shows there is a time when it is false:

this is called a COUNTEREXAMPLE

x = 3	2x = 6
x = 5	2x = 10
x = 10	2x = 20

My conjecture is: any number multiplied by 2 produces a larger number than what you started with.

Algebraically my conjecture would be stated: $2x > x$

Is this conjecture true? If not, give a counterexample

FALSE: NOT TRUE FOR NEG #'S OR ZERO

Is this conjecture true? If not, give a counterexample.

$x^2 > x$

What this inequality means:

The square of any number is larger than the number itself.

False,
NOT TRUE FOR
zero, 1, or any
between 0 & 1 (ex ½)

Is this conjecture true? If not, give a counterexample.

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

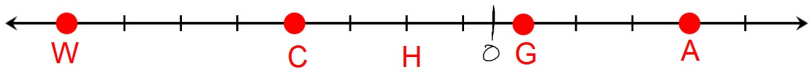
What this inequality means:

Half of any number is less than the number.

False.

NOT TRUE FOR zero or neg #s

Opposites: Numbers the same distance from zero but on different sides of zero.



1. If W and G are opposites, what is the coordinate of C?

Zero

2. If W and A are opposites is H positive or negative?

pos

3. If C and A are opposites which point has the largest absolute value?

W

Find this product with mental math:

12(103) = 12(100 + 3) = 12(100) + 12(3)

1200 + 36 = 1236

9(97) = 9(100 - 3) = 9(100)-9(3)

900 - 27 = 873

9(90 + 7) = 810 + 63

Property **Distributive Property**

For every real number a, b, and c.

$a(b + c) = ab + ac$ $\quad (b + c)a = ba + ca$

$a(b - c) = ab - ac$ $\quad (b - c)a = ba - ca$

Take a small white board, a pen, and a rag

Simplify:

1. $4(m+3)$

$4m+12$

2. $-5(w-4)$ $= -5w+20$

3. $3(-7a+8)$ $3(-7)(a)$

$-21a+24$

4. $\frac{1}{6}(12c-30)$

$2c-5$

5. $\frac{5}{3}(9Q+21)$

$15Q+35$