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 could be: It has rained every night.

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

My conjecture: It has rained every night

Is my conjecture true?

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

My conjecture is false because there could be other reasons the sidewalk could be wet like a sprinkler system.

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 because this is not true if x is neg

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

$x^2 > x$

This conjecture is false because it is not true for zero, 1, or any number between zero and 1.

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

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

This conjecture would be false because it is not true for zero or any negative number

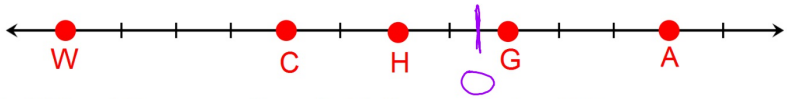
Hwk #4

pages 20-22

problems 1-3, 6, 9, 10, 14-22, 59, 60, 62, 73

Due Tomorrow.

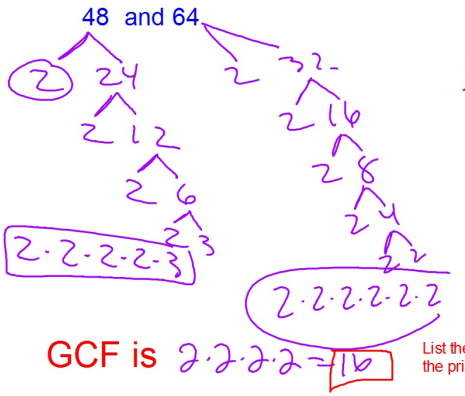
Opposites: Numbers the same distance from zero but on different sides of zero.



1. If W and G are opposites, what is the coordinate of C?
   C would be at zero because it is exactly half way between W and G.
   zero
2. If W and A are opposites is H positive or negative?
   Zero would be a half of a unit to the left of H. Therefore, H would be positive.
3. If C and A are opposites which point has the largest absolute value?
   Zero would be half a unit to the left of G. W would have the largest absolute value because it is the point furthest from zero.
   W

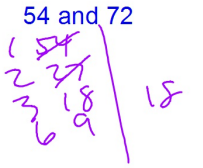
Find the GCF of the following pair of numbers:

48 and 64



List the prime factors of each number. The GCF is the product of the prime factors that they have in common.

54 and 72



GCF is 18

you could list all the factors of one number and check in decending order until you come across one that is a factor of the other number

Find the LCM of each pair of numbers:

List all the factors of each number and find the smallest number that occurs in both lists.

9 and 12 →

9: 9, 18, 27, 36, 45

12: 12, 24, 36

LCM: 36

18 and 24 →

18 = 2 · 3 · 3

24 = 6 · 4 = 3 · 2 · 2 · 2

LCM: 2 · 2 · 2 · 3 · 3 = 72

16 and 30

Do the prime factorization of each number. Write down all the different prime factors that occur in either list and the most number of times they occur in either list. The LCM is the product of these.

LCM: 240