Problem of the Day: Given the domain {-3, -1, 0, 2, 4}, find the range for f(x) = 3x - 7.

(handwritten work): $3(-3)-7=-16$ $3(0)-7$ $3\cdot1-7$ $-3 \mid -16$ $3\cdot2-7$ $-9-7$ $3(4)-7$ $12-7=5$ $6-7=-1$

Plan for the Day:
Collect weekly homework and signed tests
Discuss graphing calculator exploration
Notes on slope
Objective: We will be able to identify slope from an equation and a graph.
Good luck football and cheerleaders at Waco Connally!!

"m" stands for SLOPE!

Slope - the ratio of vertical change to horizontal change

Slope refers to the steepness of a line.

The slope of a line is always the same, no matter what points you use.

Slope (or m) is always found in linear equations by looking to see what the coefficient of x is when y is by itself.

Example 1: Find the slope in the equation $y = 3.2x$.
                                                                $\overline{m}$

$m = 3.2$

Example 2: Find the slope in the equation $y = -2/5x$.

$m = \dfrac{-2}{5}$

Value of m	effect on linear parent function/graph
positive	increases from left to right
negative	decreases from left to right
> 1	graph is steeper (goes up faster)
-1 < x < 1	graph is less steep (goes up slower)
anything	the intersection on the y-axis does not change

Example 3: The slope of the graph of the parent function y = x is _____. That means when x increases by 1, y _____ by _____.

Slope is the change in the vertical units compared to the change in the horizontal units.

In other words, slope is the change in y-values compared to the change in x-values.

Slope = change in y/change in x

But since we can graph the points, we can use:
rise (change in y-values)
run (change in x-values)

Steps to finding slope of a line from a graph:
1. Pick two points
2. Start at the point on the left
3. Count how far up or down you have to go to get to the second point (rise)
4. Count how far you go to the right to get to the point (run)
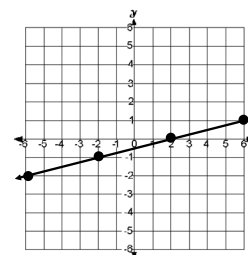5. Write rise/run as a fraction and reduce.

Example 4: Find the slope of the line.
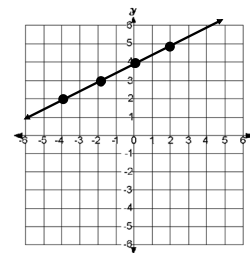
Example 5: Find the slope of the line.
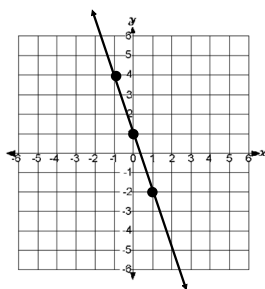
Example 6: Find the slope of the line.

Example 7: Find the slope of the line.