3. Use these two functions:

$f(x) = -2x^2 + 10$

$g(w) = 10 - 3w$

a) Find $f(-3)$

$-2(-3)^2 + 10$

$-2(9) + 10$

$-18 + 10$

$F(-3) = -8$

$f(x) = -2x^2 + 10$

$g(w) = 10 - 3w$

b) Find $w$ when $g(w) = 22$

$22 = 10 - 3w$

$-10 \quad -10$

$\frac{12}{-3} = \frac{-3w}{-3}$

$-4 = w$

$f(x) = -2x^2 + 10$

$g(w) = 10 - 3w$

c) Find $f(2) - g(3)$

Subtract the results of f(2) and g(3)

$2 - 1$

$= 1$

Find f(2)

$-2(2)^2 + 10$

$-2 \times 4 = -8 + 10 = 2$

Find g(3)

$10 - 3(3)$

$10 - 9 = 1$

$f(x) = -2x^2 + 10$

$g(w) = 10 - 3w$

d) Find $7g(1)$

$g(1) = 10 - 3(1)$

$10 - 3$

$= 7$

$7(7) = 49$

Given the functions: $g(x) = -10x - 1$

and $k(r) = -2r^2 + 5$

1. Find k(-1)

$= -2(-1)^2 + 5$

$= -2(1) + 5$

$= -2 + 5$

$k(-1) = 3$

2. Find 10k(-1)

Find k(-1) then multiply this by 10

$10(3) = 30$

Given the functions: $g(x) = -10x - 1$

and $k(r) = -2r^2 + 5$

Find $2g(1) + 3k(2)$

$2(-11) \quad 3(-3)$

$-22 + -9$

$= -31$

$g(1) = -10(1) - 1$

$= -10 - 1$

$= -11$

$k(2) = -2(2)^2 + 5$

$-2(4) + 5$

$-8 + 5$

$= -3$

You can now finish Hwk #19
Sec 5-2
pages 244-245
problems 2, 4, 24, 28-30, 32, 38-41, 44

Due tomorrow

Functions in Algebra 1:

Linear Functions:

EQ: $y = mx + b$

Graph: Line

Absolute Value Functions:

EQ: $y = a|x - h| + k$

Graph: V-Shape

Quadratic Functions:

EQ: $y = ax^2 + bx + c$
or
$y = a(x - h)^2 + k$

Graph: Parabola

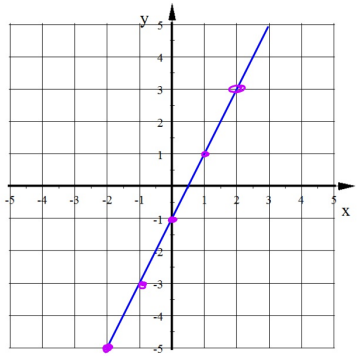
## Graphing Linear Functions.

Graph y = 2x - 1

**One method:**

Set up a table.

| x | y |
|---|---|
| -2 | -5 → 2(-2) - 1 |
| -1 | -3 → 2(-1) - 1 |
| 0 | -1 |
| 1 | 1 |
| 2 | 3 |



## Graphing Linear Functions. Another method

Slope-Intercept Form:

$y = mx + b$

m: slope = $\frac{\text{rise}}{\text{run}}$

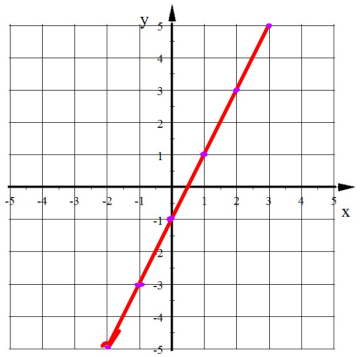
b: y-intercept

**Steps to graph this eq:**

1. Plot the y-int.
2. Use the slope to find more points.

Graph y = 2x -1

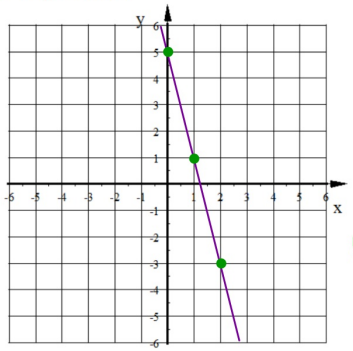
graph using the "other" method



Graph this line with at least 3 points.

$y = -4x + 5$ (slope: -4; y-int: 5)

1. Start at 5 on the y-axis
2. From the y-intercept do a rise of -4 (down) and a run of 1 (right)
3. Repeat until you have enough points to graph the line.



OR

Set up a Table and plot the points that will fit on the graph.

| x | y |
|---|---|
| -2 | 13 |
| -1 | 9 |
| 0 | 5 |
| 1 | 1 |
| 2 | -3 |

these are the only ones that fit on the graph

Graph this line with at least 3 points.

$f(x) = \frac{1}{3}x - 4$ ← y-intercept

slope $= \frac{1}{3}$ rise / run