Review for Test 3

- Finding x and y intercepts
- Slope of a line
- Equation of a line: a) slope-intercept b) point-slope c) standard form
- Parallel lines and Perpendicular lines
- Functions; vertical line test and domain

Example 1: Find the slope of the line that passes through the points (-2,-4) and (6, -7).

Example 2: Find the x and y intercepts(if any) of the line

$-9y = 6$

$4x = 8$

$2x + y = 5$

Example 3: If $f(x) = -2x^2 - 5x + 1$, evaluate the following:

$f(-1) =$

$f(3) =$

Example 4: Determine which of the following sets represents a function.

$\left\{(2,2),(2,5),\left(\frac{2}{5},0\right)\right\}$

$\left\{(2,2),(5,2),\left(\frac{2}{5},0\right)\right\}$

$\left\{(5,0),(2,0),\left(\frac{2}{5},0\right)\right\}$

Example 5: Find the domain of the functions.

$f(x)=\frac{13}{x-5}$

$g(x)=\frac{x+3}{x+4}$

$h(x)=\sqrt{24-8x}$

Example 6: State whether the following lines are parallel, perpendicular, or neither.

$y = 3x - 6$
$3x - y = 12$

$y - 4x = 9$
$y + \frac{x}{4} = 12$

$4y = 7x + 10$
$y - 6 = -\frac{4}{7}x$

Example 7: Write the equation for the line that has -7/8 and y-intercept -3/4.

Example 8: Give the equation for a line in slope intercept form that passes through (-1,7) and (-1/5, -2).

Example 9: Write an equation for the line that passes through the point (-3, 4) and is

Parallel to the line $2x + 3y = -6$

Perpendicular to the line $2x + 3y = -6$