Review for Test 2

- Distance and Midpoint formulas, and Pythagorean Theorem
- 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

There will be 10 multiple choice and 2 written problems in the test.

1) Use the **Pythagorean** Theorem to find the missing side of the triangle below.





2) Use the **distance** formula to find the distance between the points (-1, 3) and (2, 6).

3) Find the **midpoint** of the line segment joining the points (-5, 3) and (-2, 6).

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

- 5) Find the *x* and *y* intercepts (if any) of the line
- a) -9y = 6
- b) 4x = 8

c)
$$2x + y = 5$$

6) If
$$f(x) = -2x^2 - 5x + 1$$
;

f(-1) =

f(-2) =

7) Determine which of the following sets represents a function.

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

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

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

8) Find the domain of the function

$$a) \qquad f(x) = \frac{5}{x+2}$$

$$b) \qquad f(x) = \frac{x+1}{x-11}$$

9) State whether the following lines are parallel, perpendicular, or neither.

a)
$$y = x - 4$$
$$y - x = -2$$

.

b)
$$y - 9x = 4$$

 $y + \frac{x}{9} = 6$

$$2y = 9x - 4$$

c)
$$y + 6 = \frac{-2x}{9}$$

10) Write the equation for the line that has slope -7/8 and y intercept -3/5.

11) A line passes through the points (-1, 7) and (-1/5, -2). Give the equation for this line in slope intercept form.

12) Write an equation for the line that passes through the point (-3, 1/2) and is

a) parallel to the line x + 5y = 6

b) perpendicular to the line x + 5y = 6