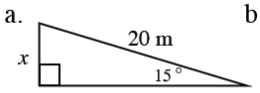
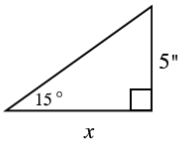
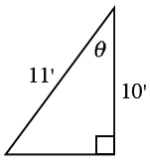
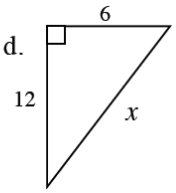
Unit 0 HW #5

1. For each diagram, write and solve an equation to find the value of each variable. Give your answer to part (d) in both radical and decimal form. For a reminder of the trigonometry ratios, refer to the Math Notes box for this lesson. *Help*

a. 

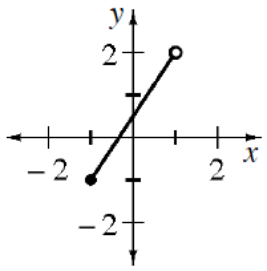
b. 

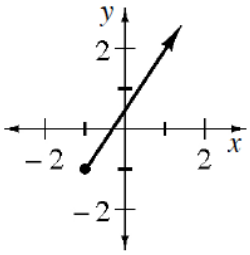
c. 

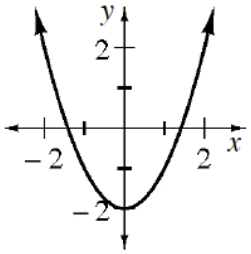
d. 

2. Consider the equation $4x - 6y = 12$. *Help*
   a. Predict what the graph of this equation looks like. Justify your answer.
   b. Solve the equation for *y* and graph the equation.
   c. Explain clearly how to find the *x*- and *y*-intercepts.
   d. Which form of the equation is best for finding the *x*- and *y*-intercepts quickly? Why?
   e. Find the *x*- and *y*-intercepts of $2x - 3y = -18$. Then use the intercepts to sketch a graph quickly.

3. Name the domain and range for each of the following functions. *Help*

a. 

b. 

c. 

4. Solve each of the following equations. Be sure to check your answers. *Help*
   a. $\frac{6}{x} = x - 1$
   b. $\frac{9}{x} = x$

5. Solve each of the following equations. *Help*
   a. $\frac{3}{x} + 6 = -45$
   b. $\frac{x-2}{5} = \frac{10-x}{8}$
   c. $(x + 1)(x - 3) = 0$