1. What numbers can we not take the square root of in the real numbers? Negative numbers.

2. What number can we not divide by? 0.

3. “f(x)” is another name for _Y_.

4. The domain of a relation tells what values _X_ can be.

5. The range of a relation tells what values _Y_ can be.

6. Write “f(5) = –7” as an ordered pair. (5, -7).

7. In a word problem, the “average rate of change” is the same as the _slope_ and the starting point is the same as the _y-intercept_.

8. Given U = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10}, A = {2, 3, 8, 9} and B = {1, 2, 4, 6, 7}, find the following:
   a) Draw the Venn diagram that represents the sets. 
   b) A ∪ B = {1, 2, 3, 4, 6, 7, 8, 9} 
   c) A ∩ B = {2}

9. Given the relation {(-4, 2), (0, -5), (3, -2), (-2, -6)}, find the following:
   a) Domain: {-4, 0, 3, -2} 
   b) Range: {2, -5, -2, -6} 
   c) Maximum of x-values: 3 
   d) Minimum of x-values: -4 
   e) Maximum of y-values: 2 
   f) Minimum of y-values: -6 
   g) Make a line graph of the relation on the grid to the right.

10. Is the relation {(5, -1), (1, -6), (5, 3), (3, -8)} a function? Why or why not? No, the x-value “5” has two different y-values.

11. Graph the line given by y = \( \frac{2}{5} x - 2 \)

12. Find the slope of the following lines:
   a) 6x + 4y = 13 \( \frac{3}{2} \)
   b) \( f(x) = 5.9x + 2.8 \) 5.9
   c) \( y = -1.7 + 5.3x \) 5.3
   d) Passing through (1, -2) and (-2, 7). -3
13. Find the domains of the functions below:
   a) \( f(x) = \sqrt{x + 7} \)
   b) \( f(x) = \frac{x}{x - 4} \)
   \( x \geq -7 \)  
   all reals except 4

14. Given \( f(x) = -4x + 6 \):
   a) Find \( f(-2) \)  
   b) Find \( f(0) \)  
   14  
   6

15. Find the equation of the line having the following properties:
   a) \( m = -8.3 \), \( (0, 3.9) \)  
   b) \( m = \frac{5}{8} \), \( (1, -2) \)  
   c) Through \( (1, 2) \) and \( (3, 8) \)
   \( y = -8.3x + 3.9 \)  
   \( 5x - 8y = 21 \)  
   \( 3x - y = 1 \)  
   or  
   \( y = 3x - 1 \)

16. Given the graph of the line below, find the following. (Assume each tick mark is “1”.)
   a. \( \Delta x: 4 \) (or -4)  
   b. \( \Delta y: -3 \) (or -3)  
   c. The slope of the line \( \frac{3}{4} \)  
   d. The y-intercept of the line \( (0, -5) \)  
   e. The equation of the line \( y = \frac{3}{4}x - 5 \)  
   f. A point on the line other than the y-intercept. \( (-4, -8); (4, -2); (8, 1) \)

17. Graph the line given by \( 4x - 5y = 20 \)

\[
\begin{array}{c|c}
   x & y \\
   \hline
   0 & -4 \\
   5 & 0 \\
\end{array}
\]

18. Find the y-intercepts of the following lines:
   a) \( y = \frac{3}{5}x - 7.9 \) \( (0, -7.9) \)
   b) \( 3x - 8y = 48 \) \( (0, -6) \)
   c) \( x = 5y + 35 \) \( (0, -7) \)

19. Write the following in slope-intercept form.
   a) \( 4x - 7y = 15 \)
   \( y = \frac{4}{7}x - \frac{15}{7} \)
   b) \( 12x + 3y = 36 \)
   \( y = -4x + 12 \)
   c) \( 2x + 5y = 16 \)
   \( y = \frac{4}{7}x - \frac{15}{7} \)