1. The domain of a relation tells what values ___X___ can be.  
2. “f(x)” is another name for ___Y_____.  
3. The range of a relation tells what values ___Y___ can be. 
4. Write “f(4) = -5” as an ordered pair. _(4, -5)_
5. What numbers can we not take the square root of in the real numbers? ____negative numbers_____. 
6. What number can we not divide by? ____zero_____.  
7. If a continuous function has no restrictions on its domain, what is its domain? ___all real numbers_____. 
8. 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_____.

9. Given the relation {(1, -3), (4, 0), (-3, -5), (6, 2)}, find the following: 
   a) Domain: ___{1, 4, -3, 6}___ 
   b) Range: ___{-3, 0, -5, 2}_____
   c) Maximum of x-values: ___6___ 
   d) Minimum of x-values: ___-3___
   e) Maximum of y-values: ___2___ 
   f) Minimum of y-values: ___-5___
   g) Make a line graph of the relation on the grid to the right.  
   (See graph)

10. Given f(x) = 2x + 3: 
    a) Find f(-4) 
    f(-4) = -5 
    b) Find f(7) 
    f(7) = 17 
    c) Find f(0) 
    f(0) = 3

11. Is the relation {(1.8, 3), (-5.7, -9.2), (-1.8, 3)} a function? Why or why not? _The relation is a function because each x-value is mapped to exactly one y-value. (No x-values repeat with different y-values.)_

12. Graph the line given by y = \(\frac{3}{4}x + 2\)

<table>
<thead>
<tr>
<th>x</th>
<th>y</th>
</tr>
</thead>
<tbody>
<tr>
<td>-8</td>
<td>-4</td>
</tr>
<tr>
<td>-4</td>
<td>-1</td>
</tr>
<tr>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>

13. Find the domain of the following functions: 
   a) f(x) = \(\frac{7}{x-1}\) 
   Domain = all real numbers except 1.  
   b) f(x) = \(\sqrt{x + 4}\) 
   Domain = \(x \geq -4\)
14. Graph the line given by $2x + 3y = 12$

15. Find the slope of the following lines:
   a) $y = \frac{2}{3}x - 7$  \hspace{1cm} \text{m} = \frac{2}{3}$
   b) $3x - 5y = 20$  \hspace{1cm} \text{m} = \frac{3}{5}$
   c) Passing through (2, 6) and (-4, -1)
      \hspace{1cm} \text{m} = \frac{7}{6}$

16. Find the equation of the line having a slope of $\frac{6}{5}$ and passing through the point (0, 3).  \hspace{1cm} y = \frac{6}{5}x + 3$

17. Given the graph of the line below, find the following. (Assume each tick mark is “1”.)
   a. $\Delta x$: -2 (or 2)
   b. $\Delta y$: 3 (or -3)
   c. The slope of the line \text{m} = -\frac{3}{2}$
   d. The y-intercept of the line \text{(0, -2)}$
   e. The equation of the line \hspace{1cm} y = -\frac{3}{2}x - 2$
   f. A point on the line other than the y-intercept. (-2, 1), (2, -5), (-4, 4) \hspace{1cm} (any one of these points is fine)$

18. The joiner’s fee for an individual to join the local YMCA is $75. In addition, the cost each month is $40 per month to keep the membership current. When a person joins, the first month’s payment is charged along with the joiner’s fee. Let $f(x)$ represent the total amount of money an individual has paid to the YMCA after “x” months of membership.
   a) How much will a person have paid for membership over the course of a year? (After 12 months) $555.00$
   b) Find the slope of this line $f(x)$.
   c) Find the y-intercept of $f(x)$.
   d) Find the equation $f(x)$.
      \hspace{1cm} f(x) = 40x + 75$

19. Determine whether the data in the table below represents a linear or a nonlinear function.

20. Find the y-intercepts of the following lines:
   a) $y = -\frac{7}{8}x + 4$ \hspace{1cm} (0, 4)$
   b) $4x - 5y = 20$ \hspace{1cm} (0, -4)$