Homework for Week 9

Monday: HW# 9A (go to www.khanacademy.org or www.hendersonmath.com for review)

Find the solution to the system of equations shown:

1.) [Graph of two lines intersecting at a point]
2.) [Graph of two lines intersecting at a point]
3.) [Graph of two lines intersecting at a point]

solution point  solution point  solution point

Find the solution to the equations shown.

4.) $x + 6 = -5$
5.) $6x = 24$
6.) $\frac{x}{3} = 5$

State if the equation shown is linear or not linear.

7.) $y = -x$
8.) $y = 4x^2 - 9$
9.) $y = 5$

2x - $\frac{2}{5} y = 3$
$\frac{7}{y} + x = 2$
$y = \sqrt{3x} + 5$

10.) Explain in words how you were able to determine your answer for $\frac{7}{y} + x = 2$. 

__________________________________________________________
__________________________________________________________
__________________________________________________________
__________________________________________________________
11.) Graph the linear equation shown in the data table on the coordinate grid provided.

<table>
<thead>
<tr>
<th>X</th>
<th>Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>-2</td>
<td>-2</td>
</tr>
<tr>
<td>0</td>
<td>-1</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>

Write the equation of the line shown in the table and on the graph: ________________

12.) Find the rate of change for the following data:
     
     \((-4, 2)\) and \((-4, 3)\)

13.) Identify the rate of change in the following linear equation:
     \(y = 9 - 2x\)

14.) Which of the following is NOT a linear equation?
     a) \(y = 6x^2 + 7\)  
     b) \(3y = 2x - 9\)  
     c) \(y = 5x + 2\)  
     d) \(8x + 2y + 12 = 0\)

15.) Which of the following graphs represents the equation \(y = 2x - 1\)?

A) [Graph A]  
B) [Graph B]  
C) [Graph C]  
D) [Graph D]
Three trains (A, B, and C) leave a train station at the same time. The graph shows the relationship between time and distance for Train A.

Train B

\[ y = 45x \]

16. What is the slope of the graph shown?  
17. What does this slope represent? (use the axis labels to help you)

18. The relationship between time and distance for Train B is given by the equation above, where \( x \) represents hours and \( y \) represents miles. Find the slope \( m \).

19. The time-distance relationship for Train C is shown in the table above. What is the ratio of distance to time? (hint: rate of change)

20. Which train is moving faster, Train A, Train B or Train C? How do you know?
Thursday: HW#9D

21.) A bowling alley offers different birthday party packages:

- Package A is represented by the function \( c = 7p + 5 \) where \( c \) is the total cost and \( p \) is the number of people.
- Package B is represented in the table.

\[ \begin{array}{|c|c|} \hline \text{Number of} & \text{Total Cost} \\ \hline 1 & 12.50 \\ 2 & 19.00 \\ 3 & 25.50 \\ 4 & 32.00 \\ \hline \end{array} \]

a) Write the equation for the package B shown in the table to the right.

b) If 12 people attend the birthday party, which package will cost less and by how much? Show all work.

22.) Time yourself…. (try and finish in less than a minute ;-)

\[
\begin{array}{cccccccc}
4 \times 5 & 7 \times 3 & 2 \times 9 & 6 \times 7 & 3 \times 12 \\
11 \times 8 & 2 \times 6 & 4 \times 3 & 8 \times 4 & 5 \times 7 \\
6 \times 3 & 5 \times 2 & 9 \times 8 & 12 \times 5 & 4 \times 10 \\
8 \times 6 & 6 \times 6 & 9 \times 2 & 8 \times 3 & 5 \times 8 \\
7 \times 9 & 11 \times 10 & 6 \times 5 & 4 \times 4 & 12 \times 12 \\
8 \times 8 & 7 \times 4 & 2 \times 8 & 7 \times 7 & 3 \times 3 \\
4 \times 2 & 6 \times 9 & 6 \times 12 & 5 \times 5 & 3 \times 11 \\
10 \times 6 & 3 \times 9 & 7 \times 8 & 8 \times 12 & 9 \times 9 \\
\end{array}
\]