Instructions: Read examples on chapter 9 and attempt these questions.
Chapter 9: Straight line graphs

Due Date: 09-10-2018

1 On the number plane provided below, plot and label the following points.

\[ A = (2, 3) \]
\[ B = (4, -3) \]
\[ C = (3, 0) \]
\[ D = (-1, 1) \]
\[ E = (-2, 5) \]
\[ F = (0, -4) \]
\[ G = (-4, 0) \]
\[ H = (-5, -3) \]

2 For the rule \( y = -2x + 1 \), complete the following table of values and then plot and draw a graph of this line on the axes provided.

<table>
<thead>
<tr>
<th>( x )</th>
<th>( -2 )</th>
<th>( -1 )</th>
<th>( 0 )</th>
<th>( 1 )</th>
<th>( 2 )</th>
<th>( 3 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>( y )</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3  a  Does the point \((-2, 1)\) lie on the graph of \(y = 3x - 5\)?

____________________________________________________________________________________
____________________________________________________________________________________

b  Does the point \((6, -4)\) lie on the graph of \(y = 8 - 2x\)?

____________________________________________________________________________________
____________________________________________________________________________________

4  Find the rule for these tables of values.

\[\begin{array}{cccccc}
 x & -2 & -1 & 0 & 1 & 2 \\
 y & -9 & -5 & -1 & 3 & 7 \\
\end{array}\]

\[\begin{array}{ccccccc}
 x & 3 & 4 & 5 & 6 & 7 \\
 y & -2 & -4 & -6 & -8 & -10 \\
\end{array}\]

____________________________________________________________________________________
____________________________________________________________________________________  

5  Find the rule for this graph by first completing the table of \((x, y)\) values.
State whether the lines labelled a, b, c and d on this graph have a positive, negative, zero or undefined gradient.

6  

\[ y = \frac{1}{2}x - 1 \]

\[ y = \frac{1}{2}x + 2 \]

\[ y = -x + 1 \]

\[ y = -x - 2 \]

7  

Find the rule for these graphs by first finding the values of \( m \) and the \( y \)-intercept.

\[ y = \frac{1}{2}x + 3 \]

\[ y = \frac{1}{2}x - 2 \]
8 Write the rule for these horizontal and vertical lines.

a ______________________

b ______________________

Graph these lines

c \( y = 3 \)

d \( x = -2 \)

9 Find the \( x \)- and \( y \)-intercepts and then sketch the graph of the rule \( y = -2x - 4 \).