Review #2 for Unit 3 “Quest” – Equations in Two Variables

Show work.

1. Determine whether the relationship between the two quantities described in the table is linear. If so, find the constant rate of change. If not, explain your reasoning.

   Linear, it is \( \frac{25}{h} \).

<table>
<thead>
<tr>
<th>Hours Rented (h)</th>
<th>Cost ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>50</td>
</tr>
<tr>
<td>4</td>
<td>100</td>
</tr>
<tr>
<td>6</td>
<td>150</td>
</tr>
<tr>
<td>8</td>
<td>200</td>
</tr>
</tbody>
</table>

2. Find the slope of the line that passes through the points (0, 2) and (4, -1).

   \[ m = -\frac{3}{4} \]

3. For 3 and 4, state the slope and the y-intercept for the graph of each equation.

   3. \( y = -3x - 2 \)
      
      Slope: \( -3 \)
      
      Y-intercept: \( -2 \)

   4. \( y + 5x = 7 \)
      
      Slope: \( -5 \)
      
      Y-intercept: \( 7 \)

5. Find the x-intercept and the y-intercept of the graph of the equation \( 4x - 3y = 24 \).

   X-Intercept: \( (6, 0) \)
   
   Y-Intercept: \( (0, 8) \)
6. Write the equation of the line shown.

\[ y = 3x + 2 \]

7. Graph \( y = -2x + 1 \)

8. Write the equation for the line passing through the points (-5, -2) and (0, -1) in slope-intercept form.

\[ y = \frac{1}{5}x - 1 \]

9. Write the equation for the line passing through the points (1, 13) and (3, 29) in slope-intercept form.

\[ y = 8x + 5 \]