

3A. Writing Linear Equations pages 11-12

MRS. WILSON

3. Algebra 1: Writing Linear Equations  
Study Guide and Assignment



No.	Study Guide	Assignment
1	<p>Write the equation that has a slope of -1 and a y-intercept of 4.</p> $y = -1x + 4$ $\boxed{y = -x + 4}$	<p>Write the equation that has a y-intercept of 0 and a slope of 4/3.</p> $\boxed{y = \frac{4}{3}x}$
2	<p>Write the equation of the line that runs through the point (-2,5) and has a slope of -3</p> $y = mx + b$ $5 = -3(-2) + b$ $5 = 6 + b$ $\begin{array}{r} -6 \\ -6 \end{array}$ $\boxed{-1 = b}$ $\boxed{y = -3x - 1}$	<p>Write the equation of the line that has a slope of 2 and contains the point (1, -2).</p> $y = mx + b$ $-2 = 2(1) + b$ $-2 = 2 + b$ $\begin{array}{r} -2 \\ -2 \end{array}$ $\boxed{-4 = b}$ $\boxed{y = 2x - 4}$
3	<p>Write the equation of the line in Slope - Intercept form that contains the points (3, -7) and (13, -3)</p> $m = \frac{-3 - (-7)}{13 - 3} = \frac{-4}{10} = \frac{-2}{5}$ $y = mx + b$ $-7 = 2(3) + b$ $\begin{array}{r} -14 \\ -14 \end{array}$ $\boxed{-21 = b}$ $\boxed{y = -\frac{2}{5}x - 21}$	<p>Write the equation of the line in Slope - Intercept form that contains the points (-3, 1) and (3, 9).</p> $m = \frac{9 - 1}{3 - (-3)} = \frac{8}{6} = \frac{4}{3}$ $y = mx + b$ $9 = \frac{4}{3}(3) + b$ $9 = 4 + b$ $\begin{array}{r} -4 \\ -4 \end{array}$ $\boxed{5 = b}$ $\boxed{y = \frac{4}{3}x + 5}$

<p>4 Write the equation of the line in Slope – Intercept form that contains the following points.</p> $m = \frac{3-0}{8-4} = \frac{3}{4} \quad (4,0)$ <table border="1" data-bbox="370 644 553 874"> <thead> <tr> <th>x</th> <th>y</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>0</td> </tr> <tr> <td>8</td> <td>3</td> </tr> <tr> <td>12</td> <td>6</td> </tr> <tr> <td>16</td> <td>9</td> </tr> </tbody> </table> $y - 0 = \frac{3}{4}(x - 4)$ $y = \frac{3}{4}x - 3$	x	y	4	0	8	3	12	6	16	9	<p>Write the equation of the line in Slope – Intercept form that contains the following points.</p> $m = \frac{-1-1}{6-3} = -\frac{2}{3} \quad (3,1)$ <table border="1" data-bbox="984 644 1167 874"> <thead> <tr> <th>x</th> <th>y</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>1</td> </tr> <tr> <td>6</td> <td>-1</td> </tr> <tr> <td>9</td> <td>-3</td> </tr> <tr> <td>12</td> <td>-5</td> </tr> </tbody> </table> $y - 1 = -\frac{2}{3}(x - 3)$ $y - 1 = -\frac{2}{3}x + 2$ $y = -\frac{2}{3}x + 3$	x	y	3	1	6	-1	9	-3	12	-5
x	y																				
4	0																				
8	3																				
12	6																				
16	9																				
x	y																				
3	1																				
6	-1																				
9	-3																				
12	-5																				
<p>5 Which line is perpendicular to the line <math>y = 2x - 5</math>?</p> $m_1 = 2 \quad m_2 = -\frac{1}{2}$ <p>A) <math>y = -2x + 1</math>          B) <math>y = \frac{1}{2}x - 6</math>          C) <math>y = -\frac{1}{2}x + 11</math>          D) <math>y = 2x - 6</math></p>	<p>Which line is perpendicular to the line <math>y = -6x + 4</math>?</p> $m = -\frac{6}{1} \quad m_2 = \frac{1}{6}$ <p>A) <math>y = -6x + 6</math>          B) <math>y = 6x + 3</math>          C) <math>y = -\frac{1}{6}x - 4</math>          D) <math>y = \frac{1}{6}x + 2</math></p>																				
<p>6 Write the equation of the line that goes through the points <math>(6, -4)</math> and that is parallel to the line <math>y = -3x + 4</math></p> $m = -3$ $y - (-4) = -3(x - 6)$ $y + 4 = -3x + 18$ $y = -3x + 14$	<p>Write the equation of the line that goes through the points <math>(-4, -4)</math> and that is parallel to the line <math>y = 3x - 5</math></p> $m = 3$ $y - (-4) = 3(x - (-4))$ $y + 4 = 3x + 12$ $y = 3x + 8$																				
<p>7 Write the equation of the line in Slope – Intercept form of the line that is perpendicular to <math>y = 3x - 5</math> and passes through the point <math>(-9, -2)</math></p> $m_1 = 3 \quad m_2 = -\frac{1}{3}$ $y - (-2) = -\frac{1}{3}(x - (-9))$ $y + 2 = -\frac{1}{3}x - 3$ $y = -\frac{1}{3}x - 5$	<p>Write the equation of the line in Slope – Intercept form that is perpendicular to the line <math>y = -4x + 5</math> and contains the point <math>(-16, 2)</math></p> $m_1 = -4 \quad m_2 = \frac{1}{4}$ $y - 2 = \frac{1}{4}(x - (-16))$ $y - 2 = \frac{1}{4}x + 4$ $y = \frac{1}{4}x + 6$																				

$$y + 2 = -\frac{1}{3}x - \frac{3}{2}$$

$$y = -\frac{1}{3}x - 5$$

$$y - 2 = \frac{1}{4}x + 4$$

$$y = \frac{1}{4}x + 6$$