

## General Algebra II Worksheet #3 Unit 2 Selected Solutions

A line is described in each of the following problems. You are to write the equation of the line. If the line is oblique, you must write its slope-intercept equation.

2. The vertical line through  $(-1, 6)$   $x = -1$
3. The line with slope 0 through  $(2, -3)$   $y = -3$   
This line is horizontal.
6. The line with slope  $5/3$  through  $(0, 3)$   $y = (5/3)x + 3$   
oblique line  $y = mx + b$   
 $m = 5/3$   $b = 3$
8. The line with slope  $1/4$  through  $(8, -1)$   $y = (1/4)x - 3$   
oblique line point-slope equation  
 $y - y_1 = m(x - x_1)$   
 $y - -1 = (1/4)(x - 8)$   
 $y + 1 = (1/4)x - 2$   
 $y = (1/4)x - 3$

A line is described in each of the following problems. You are to determine whether the line is horizontal, vertical, or oblique, and write its equation. If the line is oblique, write its slope-intercept equation.

11. The line through  $(-4, -5)$  and  $(0, -2)$  oblique line  $y = (3/4)x - 2$
- $y = mx + b$
- $$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-2 - -5}{0 - -4} = 3/4 \quad b = -2$$

16. The line through  $(-4, 3)$  and  $(6, -2)$ . oblique line  $y = (-1/2)x + 1$
- point-slope equation:  $y - y_1 = m(x - x_1)$
- $$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-2 - 3}{6 - -4} = -1/2$$
- $$y - 3 = (-1/2)(x + 4)$$
- $$y - 3 = (-1/2)x - 2$$
- $$y = (-1/2)x + 1$$