

Names:

Sections 3.1 and 3.2

1. Draw the Cartesian plane. Label the axes, the quadrants, and the origin. Then locate and label  $A(-2, 5)$  and  $B(4, -4)$ .
2. Graph  $y = -2x + 6$ . Find and label the  $x$ -intercept and the  $y$ -intercept.
3. The equation  $4x + 3y = 8$  has a line as its graph. Find the  $x$ -intercept and the  $y$ -intercept. Then graph the line.

4. What does the equation of a vertical line look like?
  
5. What does the equation of a horizontal line look like?
  
6. Graph  $y = \frac{1}{2}x$ . Find and label the  $x$ -intercept and the  $y$ -intercept.
  
  
  
  
  
  
  
  
  
  
7. The number of dentists in the United States can be estimated by the equation  $D = 3.58t + 140$ , where  $t$  is the number of years after 1980 and  $D$  is in thousands. Predict the number of dentists in the year 2007.
  
  
  
  
  
  
  
  
  
  
8. The number of sales that a salesman makes  $x$  days after being hired is given by the equation  $y = 12 - 0.3x$ . Find the  $x$ - and  $y$ -intercepts of the equation, and interpret them in the context of the problem.