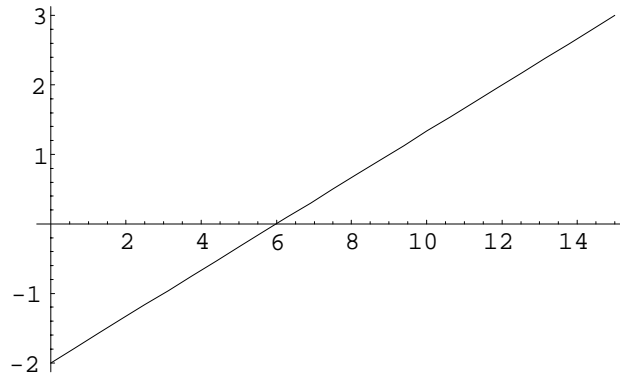


Xavier University of Louisiana  
Study Guide for the Xavier Mathematics Placement Test

## 7. Linear equations in two variables, slope, intercepts, parallel and perpendicular lines

### Practice Problems

- The point  $(-2, 9)$  lies
  - in quadrant 4
  - in quadrant 3
  - in quadrant 2
  - On the  $x$  axis
  - in quadrant 1
  
- The distance between the points  $(-1, -8)$  and  $(-7, 1)$  is:
  - 117
  - $\left(-4, -\frac{7}{2}\right)$
  - $\pm 3\sqrt{13}$
  - $\sqrt{113}$
  - $3\sqrt{13}$
  
- Find  $x$  such that  $(x, 2)$  satisfies the equation  $3x - 9y = -42$ .
  - $x = 0$
  - $x = \frac{16}{3}$
  - $x = -24$
  - $x = -20$
  - $x = -8$
  
- Find the equation of the line whose graph is given.



- a.  $x - 3y = 0$
- b.  $x + 3y = 6$
- c.  $x - 3y = 2$
- d.  $x - 3y = 6$
- e.  $3x - y = 6$

5 Find the  $x$ - intercept of the line  $3y - 4x = 2$

- a.  $(-4, 3)$
- b.  $(-\frac{1}{2}, 0)$
- c.  $(0, \frac{2}{3})$
- d.  $(\frac{1}{2}, 0)$
- e.  $(0, -\frac{1}{2})$

6 Find the slope of the line  $-5x - 9y = 3$

- a.  $m = \frac{5}{9}$
- b.  $m = -\frac{5}{9}$
- c.  $m = -\frac{9}{5}$
- d.  $m = \frac{9}{5}$
- e.  $m = 5$

7 Find the equation of the line with slope  $-4$  and passing through the point  $(8, 5)$ .

- a.  $y = 5 - 4x$
- b.  $y = 37 - 4x$

- c.  $y = 4x - 37$
- d.  $y = 27 - 4x$
- e.  $y = 4x - 27$

**8** Find the equation of the line that is parallel to the line  $-8x - y = 5$  and goes through the point  $(4, -3)$ .

- a.  $y = 29 - 8x$
- b.  $y = 8x - 35$
- c.  $y = 8x + 29$
- d.  $y = 35 - 8x$
- e.  $y = -8x - 35$

**9** Points  $A(9, -7)$ ,  $B(-4, -7)$ ,  $C(-4, 2)$  are vertices of a triangle.  $\triangle ABC$ . Choose the correct statement:

- a.  $\triangle ABC$  is an isosceles right triangle
- b.  $\triangle ABC$  is an isosceles triangle
- c.  $\triangle ABC$  is a right triangle
- d.  $\triangle ABC$  is an equilateral triangle
- e. None of the above