Practice

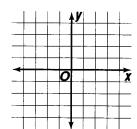
Student Edition Pages 316-321

Families of Linear Graphs

Graph each pair of equations. Describe any similarities or differences and explain why they are a family of graphs.

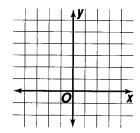
1.
$$y = 2x + 3$$

 $y = 2x - 3$



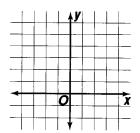
2.
$$y = 4x + 5$$

 $\dot{y} = -3x + 5$



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

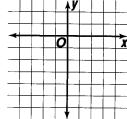
$$y = \frac{1}{3}x + 4$$



Compare and contrast the graphs of each pair of equations. Verify by graphing the equations.

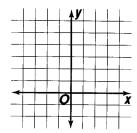
4.
$$y = -\frac{1}{2}x - 4$$

$$y = -2x - 4$$



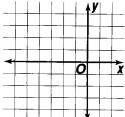
5.
$$3x + 6 = y$$

 $3x = y$



6.
$$y = \frac{5}{6}x + 3$$

$$y = 5x + 3$$



Change y = -x + 2 so that the graph of the new equation fits each description.

- 7. same slope, shifted down 2 units
- 8. same *y*-intercept, steeper negative slope
- **9.** positive slope, same *y*-intercept

- 10. same y-intercept, less steep negative slope
- 11. same slope, shifted up 4 units
- 12. same slope, shifted down 6 units