Practice Set 3.4

Use the choices to fill in each blank.

reflected	positive	slope-intercept	zero	y-intercept
translated	negative	standard	undefined	slope

1. Lines with _____ slopes fall to the right.

2. Lines with _____ slopes rise to the right.

3. The slope of a horizontal line is _____.

4. The slope of a vertical line is _____.

5. The equation $y = mx + b$ is in _____ form, with m representing the _____ and b representing the _____.

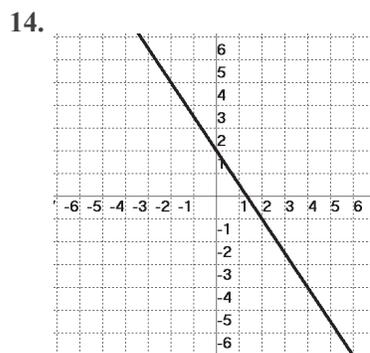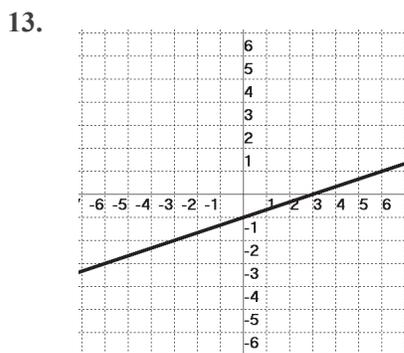6. The graph of $2x - 5y = 10$ is the graph of $2x - 5y = 15$ _____ 5 units down.

Find the slope of the line through the given points. If the slope is undefined, so state.

7. (2, 5) and (2, 3)   8. (–2, 5) and (4, –3)   7._____

                                                                                     8._____

9. (2, –5) and (–4, –3)   10. (2, –5) and (3, –5)   9._____

                                                                                     10._____

Solve for the given variable if the line through the two given points is to have the given slope.

11. $(x, 5)$ and (4, 3), $m = 1$ 12. (–2, 5) and $(4, y)$, $m = -1$ 11._____

                                                                                     12._____

Find the slope and y-intercept of the line in each of the figures. If the slope is undefined, so state.

13.   14.   13. $m =$ _____
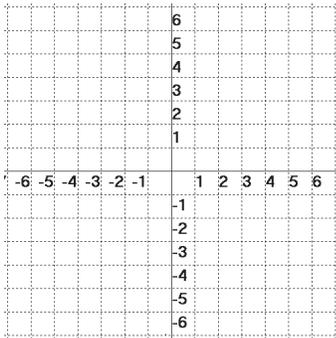
                                                                                     $b =$ _____

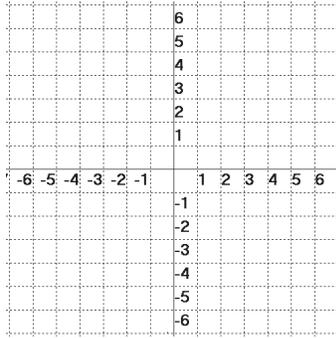   14. $m =$ _____

                                                                                     $b =$ _____

Practice Set 3.4

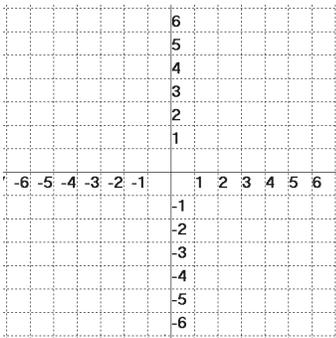Write each equation in slope-intercept form. Then use the slope and y-intercept to graph each equation.

15. $y = -x - 4$
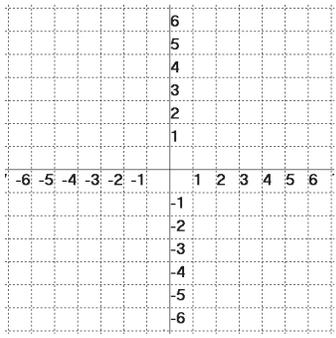
16. $-2x - y = 3$

15._____

16._____

17. $-50x = -25y + 50$

18. $f(x) = \dfrac{2}{3}x + 3$

17._____

18._____

Find the equation of each graph translated the given number of units.

19. $4x - 2y = 6$, 4 units down

20. $-6x + 3y = -9$, 3 units up

19._____

20._____

Challenge

21. Global carbon emissions gradually increased over the years 1950–1998. The dashed line is a linear function that was drawn to approximate the data.

a) Determine the slope of each line segment.

21.a)_____

b) Write a linear function to represent the dashed line.

b)_____

Year	Global Carbon Emissions (in billion tons)
1950	1.6
1960	2.5
1970	4.0
1980	5.2
1990	5.9
1998	6.3

[Source: worldwatch.org]

Angel/Runde, *Intermediate Algebra for College Students,* 9e