

10. 4

11. The slope of the perpendicular line should be $-\frac{1}{4}$.

$$y - 5 = -\frac{1}{4}(x - (-8))$$

$$y - 5 = -\frac{1}{4}x - 2$$

Corrected:

$$y - 5 + 5 = -\frac{1}{4}x - 2 + 5$$

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

12. 3

13. a. No; Answers may vary; the slopes of adjacent sides must be negative reciprocals. The slope of \overline{AD} is $-\frac{1}{6}$, and the slope of \overline{AB} is 5.

b. Sample: You could change D to $(5, 1)$ and C to $(4, -4)$ so that two slopes would be

$$-\frac{1}{5}.$$

14. The coefficients of x and y are the same, so you know that when the equations are converted to slope-intercept form, the slopes will be equal. When the slopes are equal, the lines are parallel.

15. $y = \frac{1}{5}x - 5$

16. $y = 3x + 1$

17. $y = 2$

18. $y = -\frac{2}{3}x + 8$

19. The slope of Line A is 2 and the slope of Line B is $-\frac{1}{2}$. The product of the two slopes is -1 .

20. $y = \frac{5}{2}x + 12$

21. $y = -\frac{4}{3}x + 3$

22. $y = 5$

23. $y = -\frac{5}{4}x + 8$

24. parallel

25. parallel

26. perpendicular

27. perpendicular

28.

	Equation	Slope of a parallel line	Slope of a perpendicular line
a.	$y = \frac{1}{2}x + 6$	$\frac{1}{2}$	-2
b.	$x = -4.2$	undefined	0
c.	$3x + 4y = 3$	$-\frac{3}{4}$	$\frac{4}{3}$
d.	$y = 3$	0	undefined
e.	$y = x$	1	-1

29. a. Sample: $y = -\frac{1}{2}x + 3$; The slope must be $-\frac{1}{2}$.

b. Sample: The artist can determine the equation of each side of the figure. If opposite sides are parallel and adjacent sides are perpendicular, the figure is a rectangle.

30. Use the point-slope form to write an equation. $(y-5) = -\frac{2}{9}(x-8)$

31. a. $y = 125x + 23$

b. Yes; the slopes of the lines are the same but the y -intercepts are different, so the lines are parallel.

c. Since the slopes are the same, Elijah and Aubrey deposit the same amount, \$125, each week. The y -intercepts are different which indicates that Elijah began with \$72 in his account and Aubrey began with \$23 in her account.

32. C

33. A

34. Part A $y = \frac{5}{2}$

Part B

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

b. $y = \frac{5}{3}x + \frac{50}{3}$

c. $y = -\frac{5}{6}x + \frac{85}{6}$

d. $y = \frac{6}{5}x + 4$

Part C Check student's work.