

Practice 3-5

Lines in the Coordinate Plane

Write an equation of the line with the given slope that contains the given point.

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| 1. $F(3, -6)$, slope $\frac{1}{3}$ | 2. $Q(5, 2)$, slope -2 | 3. $A(3, 3)$, slope 7 | 4. $B(-4, -1)$, slope $-\frac{1}{2}$ |
| 5. $L(-3, -2)$, slope $\frac{1}{6}$ | 6. $R(15, 10)$, slope $\frac{4}{5}$ | 7. $D(1, -9)$, slope 4 | 8. $W(0, 6)$, slope -1 |

Graph each line using slope-intercept form.

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| 9. $2y = 8x - 2$ | 10. $2y = \frac{1}{2}x - 10$ | 11. $3x + 9y = 18$ | 12. $-x + y = -1$ |
| 13. $y + 7 = 2x$ | 14. $4x - 2y = 6$ | 15. $5 - y = \frac{3}{4}x$ | 16. $\frac{1}{3}x = \frac{1}{2}y - 1$ |

Graph each line.

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|------------------|----------------------------|-----------------------------|---------------|
| 17. $y = 5x + 4$ | 18. $y = \frac{1}{2}x - 3$ | 19. $x = -2$ | 20. $y = -2x$ |
| 21. $y = -5$ | 22. $y = x$ | 23. $y = -\frac{2}{3}x + 2$ | 24. $x = 2.5$ |

Write an equation of the line containing the given points.

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| 25. $A(2, 7), B(3, 4)$ | 26. $P(-1, 3), Q(0, 4)$ | 27. $S(10, 2), T(2, -2)$ | 28. $D(7, -4), E(-5, 2)$ |
| 29. $G(-2, 0), H(3, 10)$ | 30. $B(3, 5), C(-6, 2)$ | 31. $X(-1, -1), Y(4, -2)$ | 32. $M(8, -3), N(7, 3)$ |

Write equations for (a) the horizontal line and (b) the vertical line that contain the given point.

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| 33. $Z(2, -11)$ | 34. $D(0, 2)$ | 35. $R(-4, -4)$ | 36. $F(-1, 8)$ |
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Graph each line using intercepts.

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| 37. $3x - y = 12$ | 38. $2x + 4y = -4$ | 39. $\frac{1}{2}x + \frac{1}{2}y = 3$ | 40. $12x - 3y = -6$ |
| 41. $2x - 2y = 8$ | 42. $\frac{1}{4}x + 2y = 2$ | 43. $-6x + 1.5y = 18$ | 44. $0.2x + 0.3y = 1.8$ |

45. **Hourly Wages** The equation $P = \$3.90 + \$0.10x$ represents the hourly pay (P) a worker receives for loading x number of boxes onto a truck.

- What is the slope of the line represented by the given equation?
- What does the slope represent in this situation?
- What is the y -intercept of the line?
- What does the y -intercept represent in this situation?

46. **Inclines** The Blackberrys' driveway is difficult to get up in the winter ice and snow because of its slope. What is the equation of the line that represents the Blackberrys' driveway?

