

Chapter 8 Prerequisite Skills

1. What are the slope and y-intercept of each line?
 - a) $y = -3x + 4$
 - b) $y = \frac{2}{5}x - \frac{1}{3}$
 - c) $3x - 2y = 7$
 - d) $4.2 - 2y = 3.6x$
2. Write the equation of each line, using the given information.
 - a) passing through $(-3, 1)$ with slope, $m = -2$
 - b) passing through $(3, -4)$ and perpendicular to $y = \frac{3}{2}x - 7$
3. Write a system of linear equations to model each situation.
 - a) The sum of two numbers is 752 and their difference is 174.
 - b) The total number of adult and youth tickets for a play is 256. Adult tickets cost \$5 each, and youth tickets cost \$3 each. The total sales for one performance were \$767.
 - c) A newspaper box contains quarters and loonies. The total number of coins is 73. The total value of the coins is \$37.
 - d) The membership fee at one dance club is \$75 for the first year, plus \$15 per month. The fee at another dance club is \$35 per month.
4. Predict the number of solutions for each system of linear equations. Explain how you made your prediction.
 - a) $y = 2x - 3$
 $y = 2x + 1$
 - b) $y = 3x + 10$
 $2y = 6x + 20$
 - c) $2x + 3y - 6 = 0$
 $14x + 21y - 42 = 0$
 - d) $2x - y - 10 = 0$
 $4x - y - 30 = 0$
5. Solve each system of linear equations by graphing. Express answers to the nearest tenth.
 - a) $y = -2x - 6$
 $y = 2x + 8$
 - b) $x - y = 1$
 $5x - 4y = 12$
 - c) $y = \frac{2}{5}x - 7$
 $y = -\frac{5}{8}x + 2$
 - d) $6x + 5y = -45$
 $2x + 5y = 40$
6. Solve each linear system by substitution.
 - a) $y = 3x - 1$
 $x + y = 11$
 - b) $2 + y = 3x$
 $6x - 5y = 8$
 - c) $0.1y = 0.3x - 1.5$
 $x - 0.2y = 5.6$
 - d) $2x = 6y + 9$
 $y - 2x = -4$
7. Solve each linear system using the elimination method.
 - a) $x - y = 17$
 $x + y = -9$
 - b) $\frac{y}{2} = 2x - 3$
 $3x + 2y = \frac{9}{2}$
 - c) $3x + 2y = 10$
 $2x - y = 4$
 - d) $x + 7 = y$
 $2x + y = -8$

