

**Unit 6 Review**

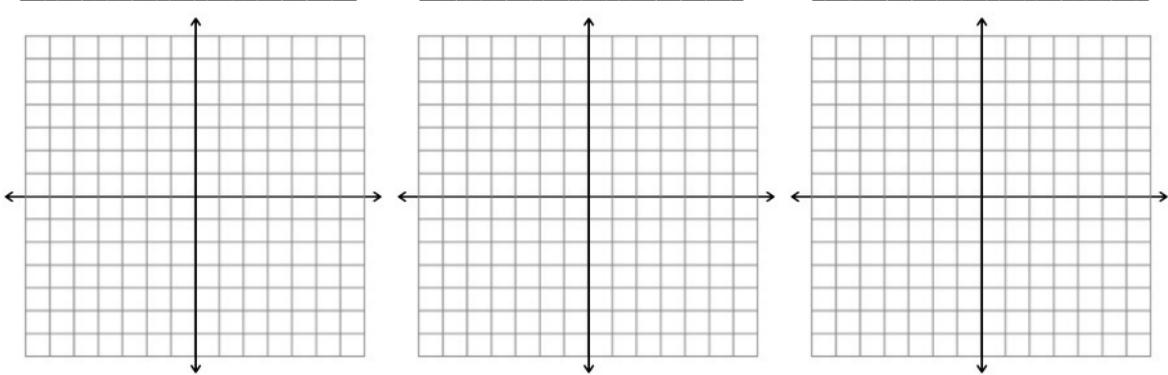
Form G

Solve each system by **graphing**.Tell whether the system has *one solution*, *infinitely many solutions*, or *no solution*.

$$\begin{aligned} 1. \quad & y = -2x - 2 \\ & y = 2x + 6 \end{aligned}$$

$$\begin{aligned} 2. \quad & x + y = 3 \\ & y = 4x - 2 \end{aligned}$$

$$\begin{aligned} 3. \quad & y = -\frac{1}{2}x + 3 \\ & y = -\frac{1}{2}x + 2 \end{aligned}$$

Solve each system using **substitution**.

$$\begin{aligned} 4. \quad & x = 4y \\ & x + 2y = 66 \end{aligned}$$

$$\begin{aligned} 5. \quad & y = x - 7 \\ & 3x + y = 17 \end{aligned}$$

$$\begin{aligned} 6. \quad & y = x + 2 \\ & 2x + y = 8 \end{aligned}$$

Solve each system using **elimination**.

$$\begin{aligned} 7. \quad & x + y = 4 \\ & x - y = 6 \end{aligned}$$

$$\begin{aligned} 8. \quad & -2x + 3y = 9 \\ & 2x - 2y = -4 \end{aligned}$$

$$\begin{aligned} 9. \quad & x + y = 7 \\ & 3x - 2y = 11 \end{aligned}$$

**Write a system of equations to model each situation. Solve by any method.**

- 13.** The sum of two numbers is 70. Their difference is 26. Write a system of equations that describes this situation. What are the two numbers?
- 14.** Two numbers have a sum of 40 and a difference of 32. Write a system of equations that describes this situation. What are the two numbers?
- 15.** You have ones and fives in your pocket. 61 bills total, worth \$201. How many fives and ones do you have?
- 16.** A change purse contains a total of 100 nickels and dimes. The total value of the coins is \$7. How many coins of each type does the purse contain?
- 17.** Penny has a collection of dimes and nickels. She has 95 coins totaling \$4.90. Find how many of each type of coin she has.
- 18.** Shady Acres Apartments charges \$1,000 deposit to move in, plus \$800 a month for rent. Duplex Duos charges \$1200 as a deposit, but only \$775 a month for rent. After how many months will their costs be equal?
- 19.** Jay's Body Shop pays \$2400 a day for building rent & equipment. It usually costs \$450 to put together the average car. If they sell a car for an average of \$1,250, how many cars do they sell before they break even?
- 20.** Rifleman Sports sells rifles. It costs \$300 to make one rifle and costs \$30,000 a month to run the warehouse and the machinery. An average rifle costs \$700. How many rifles does the store have to sell to break even?