Algebra II 1.6 B Homework elimination/Substitution

Solve by substitution

1. $\begin{cases} y = x + 1 \\ 2x + y = 7 \end{cases}$ **2.** $\begin{cases} x = y - 2 \\ 3x - y = 6 \end{cases}$ **3.** $\begin{cases} y = 2x + 3 \\ 5x - y = -3 \end{cases}$

4. $\begin{cases} 6x - 3y = -33 \\ 2x + y = -1 \end{cases}$ **5.** $\begin{cases} 2x - y = 7 \\ 3x - 2y = 10 \end{cases}$ **6.** $\begin{cases} 4x = 8y \\ 2x + 5y = 27 \end{cases}$

Solve with Elimination

7. $\begin{cases} x + y = 10 \\ x - y = 2 \end{cases}$ **8.** $\begin{cases} -x + 3y = -1 \\ x - 2y = 2 \end{cases}$ **9.** $\begin{cases} x + y = 7 \\ x + 3y = 11 \end{cases}$

10. $\begin{cases} 4x - 3y = -2 \\ 4x + 5y = 14 \end{cases}$ **11.** $\begin{cases} x + 2y = 10 \\ 3x + 6y = 30 \end{cases}$ **12.** $\begin{cases} 2x - 5y = 11 \\ 4x + 10y = 18 \end{cases}$

Solve either method.

13. $\begin{cases} 14x + 2y = 10 \\ x - 5y = 11 \end{cases}$ **14.** $\begin{cases} x + 5y = 1 \\ 2x + 10y = 2 \end{cases}$ **15.** $\begin{cases} 4x + 3y = -6 \\ 5x - 6y = -27 \end{cases}$

16. There are a total of 15 apartments in two buildings. The difference of two times the number of apartments in the first building and three times the number of apartments in the second building is 5.

a. Write a system of equations to model the relationship between the number of apartments in the first building *f* and the number of apartments in the second building *s*.

b. How many apartments are in each building?

17. Last year, a baseball team paid $20 per bat and $12 per glove, spending a total of $1040. This year, the prices went up to $25 per bat and $16 per glove. The team spent $1350 to purchase the same amount of equipment as last year. How many bats and gloves did the team purchase each year?

18. Suppose you bought eight oranges and one grapefruit for a total of $4.60. Later that day, you bought six oranges and three grapefruits for a total of $4.80. What is the price of each type of fruit?

19. You can buy DVDs at a local store for $15.49 each. You can buy them at an online store for $13.99 each plus $6 for shipping. How many DVDs can you buy for the same amount at the two stores?