

Solving Systems of Equations by Substitution.

Date _____ Period _____

Solve each system by substitution.

1) $y = x + 1$
 $y = -6x + 15$

2) $y = -5x + 16$
 $y = -2x + 7$

3) $y = -3x - 12$
 $6x - y = -15$

4) $3x - 2y = 1$
 $y = 3x + 1$

5) $y = 6x + 4$
 $-12x + 2y = -3$

6) $-4x - 2y = 12$
 $y = 2x + 2$

Write a system of equations that could be used to solve each problem. You do not have to solve these (yet).

- 7) Jacob and Abhasra are selling cheesecakes for a school fundraiser. Customers can buy French silk cheesecakes and apple cheesecakes. Jacob sold 2 French silk cheesecakes and 7 apple cheesecakes for a total of \$75. Abhasra sold 3 French silk cheesecakes and 14 apple cheesecakes for a total of \$144. Find the cost each of one French silk cheesecake and one apple cheesecake.
- 8) New York City is a popular field trip destination. This year the senior class at High School A and the senior class at High School B both planned trips there. The senior class at High School A rented and filled 13 vans and 5 buses with 440 students. High School B rented and filled 3 vans and 10 buses with 535 students. Each van and each bus carried the same number of students. Find the number of students in each van and in each bus.
- 9) Chelsea and Asanji each improved their yards by planting hostas and shrubs. They bought their supplies from the same store. Chelsea spent \$68 on 12 hostas and 1 shrub. Asanji spent \$116 on 4 hostas and 12 shrubs. What is the cost of one hosta and the cost of one shrub?
- 10) Kayla's school is selling tickets to a spring musical. On the first day of ticket sales the school sold 12 senior citizen tickets and 12 child tickets for a total of \$192. The school took in \$72 on the second day by selling 6 senior citizen tickets and 2 child tickets. Find the price of a senior citizen ticket and the price of a child ticket.

Answers to Solving Systems of Equations by Substitution.

1) $(2, 3)$

3) $(-3, -3)$

5) No solution

7) $2f + 7a = 75$

$3f + 14a = 144$

French silk cheesecake: \$6, apple cheesecake: \$9

9) $12h + s = 68$

$4h + 12s = 116$

hosta: \$5, shrub: \$8