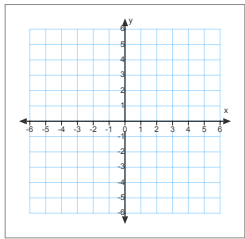


Warm up

1. Graph each system of constraints. Name all the vertices. Then find the values of  $x$  and  $y$  that maximize the objective function.

$$\begin{cases} 3x - 3y \geq 6 \\ 4x + 4y \leq 16 \\ y \leq 2, x \geq 0, y \geq 0 \end{cases}$$

$$P = 2x + 7y$$


Sep 22-6:35 AM

①  $3x - y + z = 3 \rightarrow 3x - y + z = 3$   
 ②  $x + y + 2z = 4 \rightarrow x + y + 2z = 4$   
 ③  $x + 2y + z = 4 \rightarrow 4x + 3z = 7$

---

$6x - 2y + 2z = 6$   
 $x + 2y + z = 4$   
 $7x + 3z = 10$

Sep 24-11:29 AM

g

each system by elimination. Check your answers.

$x - y + z = -1$	2. $\begin{cases} x - y - 2z = 4 \\ -x + 2y + z = 1 \\ -x + y - 3z = 11 \end{cases}$	3. $\begin{cases} 2x - y + z = -2 \\ x + 3y - z = 10 \\ x + 2z = -8 \end{cases}$
$x + y + 3z = -3$		
$x - y + 2z = 0$		

**CHECK 3.6**  
**Answers:**  
 1) (4, 2, -3)  
 3) (2, 1, -5)  
 5) (0.5, -3, 1)  
 7) (1, -4, 3)  
 9) (4, -1, 2)  
 11) (2, 3, -2)

each system by substitution. Check your answers.

$a + b + c = -3$	5. $\begin{cases} 6q - r + 2s = 8 \\ 2q + 3r - s = -9 \\ 4q + 2r + 5s = 1 \end{cases}$	6. $\begin{cases} x - y + 2z = -7 \\ y + z = 1 \\ x = 2y + 3z \end{cases}$
$3b - c = 4$		
$a - b - 2c = -5$		

$x + y + 2z = 3$	8. $\begin{cases} 3x - y + z = 3 \\ x + y + 2z = 4 \\ x + 2y + z = 4 \end{cases}$	9. $\begin{cases} x - 2y + 3z = 12 \\ 2x - y - 2z = 5 \\ 2x + 2y - z = 4 \end{cases}$
$x + y + 3z = 7$		
$x - 2y + z = 10$		

$+2y + 3z = 6$	11. $\begin{cases} 3a + b + c = 7 \\ a + 3b - c = 13 \\ b = 2a - 1 \end{cases}$	12. $\begin{cases} 5r - 4s - 3t = 3 \\ t = s + r \\ r = 3s + 1 \end{cases}$
$y + 2z = 0$		
$z = 2$		

Oct 5-1:43 PM

# 3.6 Solving Systems of Linear Equations in 3 Variables

## Part II

Aug 3-10:07 PM

---

---

---

---

---

---

---

---

---

---

---



### INVESTMENTS!

Your aunt receives an inheritance of \$20,000. She wants to put some of the money into a savings account that earns 2% interest annually and invest the rest in certificates of deposit (CDs) and bonds. A broker tells her that CDs pay 5% interest annually and bonds pay 6% interest annually. She wants to earn \$1000 interest per year, and she wants to put twice as much money in CDs as in bonds. How much should she put in each type of investment?

Aug 3-10:07 PM

---

---

---

---

---

---

---

---

---

---

---

## ASSIGNMENT

**HW3.6 p. 157**  
**Part II - with calculator**  
**#20, 21, 25-29 odd**

Aug 3-10:07 PM

---

---

---

---

---

---

---

---

---

---

---

Homework: page 157

$A = 24,500$   
 $B = 14,400$   
 $C = 10,100$

20. **Sports** A stadium has 49,000 seats. Seats sell for \$25 in Section A, \$20 in Section B, and \$15 in Section C. The number of seats in Section A equals the total number of seats in Sections B and C. Suppose the stadium takes in \$1,052,000 from each sold-out event. How many seats does each section hold?

21. A change machine contains nickels, dimes, and quarters. There are 75 coins in the machine, and the value of the coins is \$7.25. There are 5 times as many nickels as dimes. Find the number of coins of each type in the machine.

Solve each system.  $nickels = 50$   $dimes = 10$   $quarters = 15$

25. 
$$\begin{cases} x - 3y + 2z = 11 \\ -x + 4y + 3z = 5 \\ 2x - 2y - 4z = 2 \end{cases} \quad (8, 1, 3)$$

27. 
$$\begin{cases} 4x - y + 2z = -6 \\ -2x + 3y - z = 8 \\ 2y + 3z = -5 \end{cases} \quad \left(\frac{1}{2}, 2, -3\right)$$

29. 
$$\begin{cases} 4x - 2y + 5z = 6 \\ 3x + 3y + 8z = 4 \\ x - 5y - 3z = 5 \end{cases} \quad \text{no solution}$$

Show your work!

Sep 22-1:43 PM

---

---

---

---

---

---

---

---

---

---

---

---