CHAPTER 3

NAME _____ DATE _____

Chapter Test C

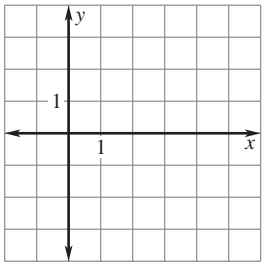
For use after Chapter 3

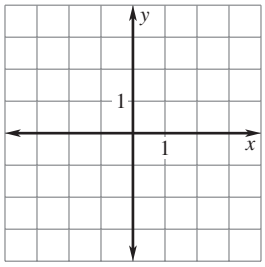
Graph the linear system and tell how many solutions it has. If there is exactly one solution, estimate the solution and check it algebraically.

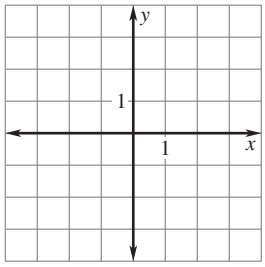
1. $2x - y = 5$
$-x + y = -3$

2. $2x - 3y = -6$
$-3y + 2x = 3$

3. $3x + y = 1$
$2y = 2 - 6x$







Solve the system using any algebraic method.

4. $3x - 2y = 10$
$5x + 3y = -15$

5. $2x - 4y = -6$
$-x + 2y = 3$

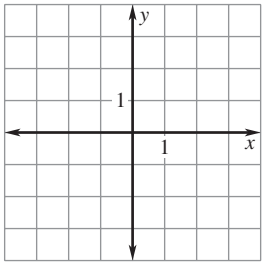
6. $3x - 5y + 10 = 0$
$-9x + 15y = -30$

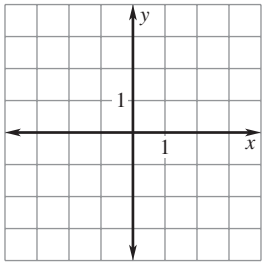
Graph the system of linear inequalities.

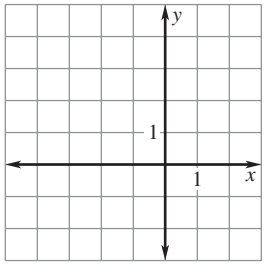
7. $x \leq 0$
$y \geq 0$

8. $x + y > -1$
$3x - 2y > 4$

9. $-y \leq -2x - 3$
$x + 2 \leq 0$







Find the minimum and maximum values of the objective function subject to the given constraints.

10. Objective function: $C = 4x + y$
Constraints: $x \geq 0$
$y \geq 0$
$x + y \leq 3$

11. Objective function: $C = 6x + 7y$
Constraints: $x \geq 0$
$y \geq 0$
$4x + 3y \geq 24$
$x + 3y \geq 15$

Answers

1. Use grid at left. _____

2. Use grid at left. _____

3. Use grid at left. _____

4. _____

5. _____

6. _____

7. Use grid at left. _____

8. Use grid at left. _____

9. Use grid at left. _____

10. _____

11. _____

Review and Assess

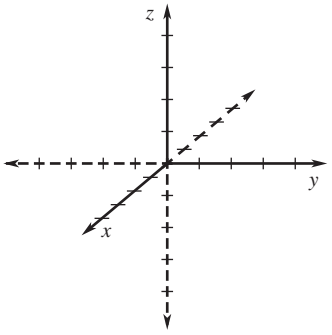
NAME _____ DATE _____

Chapter Test C

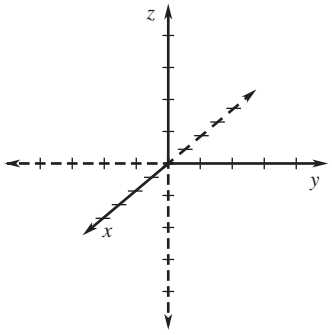
For use after Chapter 3

Plot the ordered triple in a three-dimensional coordinate system.

12. $(2, 1, 4)$

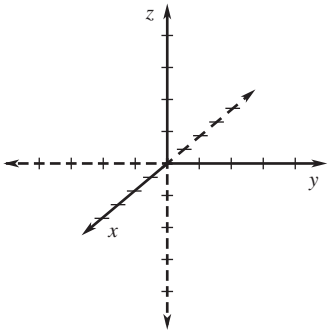


13. $(-3, 4, -4)$

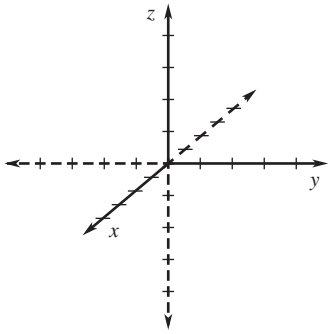


Sketch the graph of the equation. Label the points where the graph crosses the *x*-, *y*-, and *z*-axes.

14. $x + y - z = 4$



15. $-3x - 3y + 3z = 12$



16. Write the linear equation $2x + 3y + z = 12$ as a function of x and y. Then evaluate the function when $x = 4$ and $y = 1$.

Solve the system using any algebraic method.

17. $-3x + 4y = -6$

$5x - 3z = -22$

$3y + 2z = -1$

18. $3x + 2y + 2z = -3$

$2x + 3y + 3z = -2$

$-3x - 5y + z = -9$

19. ***Stamps*** Postcard stamps are 20¢ each, while letter stamps are 33¢ each. If you have 50 stamps worth $12.60, how many of each type do you have?

20. ***Numbers*** The sum of the digits of a two-digit number is 9. If the digits are reversed, the new number is 27 more than the original number. Find the original number.

12. Use grid at left.

13. Use grid at left.

14. Use grid at left.

15. Use grid at left.

16. _____

17. _____

18. _____

19. _____

20. _____