

3x3 Systems Practice

SHOW all work on another sheet of paper

Algebra II Chapter 3 Supplement #2

$$x + y + 2z = 1$$

1. $-x - y + 3z = 4$

$$2x - 3y - z = 12$$

$$(2, -3, 1)$$

$$2x + 5y + 3z = -6$$

2. $x - y + z = 2$

$$-4x + 3y - 6z = -1$$

$$(4, -1, -3)$$

$$4x - 3y + z = -9$$

3. $x + 6y - z = 5$

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

$$(-2, 2, 5)$$

$$3x - y - z = 4$$

4. $5x + 2y - 4z = 1$

$$6x - 3y - 2z = 7$$

$$(3, 1, 4)$$

$$x + y + z = 5$$

5. $x - y + 2z = 2$

$$x + y = 6$$

$$(5, 1, -1)$$

$$3x - 2y + z = 9$$

6. $x + 4y = -2$

$$-y + 4z = 5$$

$$(2, -1, 1)$$

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

7. $3x + y - z = 3$

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

$$(1, 2, 2)$$

$$4x - y + z = 7$$

8. $x - 2y - 3z = 0$

$$x + z = 6$$

$$(-8, -25, 14)$$

$$4x + y - z = -2$$

9. $x + 3y - 4z = 1$

$$2x - y + 3z = 4$$

$$(-1, 6, 4)$$

10. Solve using determinants:

$$5x - 7y = 1$$

$$3x + 8y = 6$$

11. Solve using determinants:

$$-5x + y = 98$$

$$3x - 4y = 10$$

$$2x + y + z = 1$$

$$12. -3x + y + 2z = 9$$

$$y + z = 3$$

$$(-1, 0, 3)$$

13. Solve using determinants:

$$-2x - 10y = 11$$

$$7x + 15y = -13$$

$$-4x - 3y = 9$$

$$14. 2x + 2y + 7z = 15$$

$$4y + 5z = 15$$

$$\left(\frac{-126}{51}, \frac{15}{51}, \frac{141}{51}\right)$$

$$3x + 2y = 1$$

$$15. 6y + 5z = 4$$

$$-9x + 4y - 10z = -24$$

$$\left(\frac{8}{11}, \frac{-13}{22}, \frac{83}{55}\right)$$

For problems 16-21, indicate whether the given system has a single solution, no solution, or an infinite solutions set: SHOW all work.

$$x + y + z = 14$$

$$16. 5x + 3y + 2z = 56$$

$$4x + 2y + z = 42$$

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

$$17. x + 2y + 4z = 1$$

$$5x + y - 7z = 4$$

$$3x - 2y + 4z = 4$$

$$18. 7x + 5y - z = 9$$

$$x + 9y - 9z = 1$$

$$x - 2y + z = 4$$

$$19. y - z = 0$$

$$-2x + 4y - 2z = 8$$

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

$$20. x + 2y - z = 1$$

$$2x + y + z = 4$$

$$2x - 3y - 5z = 4$$

$$21. x + 7y + 6z = -7$$

$$7x - 2y - 9z = 6$$