Honors Math II
Unit 6 day 3

Show work for full credit

Name Key
Period_____ Date_____

Solve.

1. $3x^2 + 7x - 9 = 15$

$x = \frac{-7 \pm \sqrt{337}}{6}$

2. $5x^2 - 17x - 12 = 0$

$x = -\frac{3}{5}$

$x = 4$

3. $x^3 + 2x^2 = 4x + 8$

$x = -2$

$x = 2$

4. $2x^2 + 8x = 0$

$x = 0$

$x = -4$

5. $2(x-4)^2 + 8 = 10$

$x = 5$

$x = 3$

6. $8x^2 + 22x + 15 = 0$

$x = \frac{-3}{2}$

$x = \frac{-5}{4}$

Solve the following systems.

7.
$$\begin{aligned} x - 3y + 3z &= -4 \\ 2x + 3y - z &= 15 \\ 4x - 3y - z &= 19 \end{aligned}$$

$(5, 1, -2)$

8.
$$\begin{aligned} 4x + 2y - 2z &= 10 \\ 2x + 8y + 4z &= 32 \\ 30x + 12y - 4z &= 24 \end{aligned}$$

$(-2, 6, -3)$

9. $11x - y = 11$
$y - z = 11$
$x + 12z = 2$

(2, 11, 0)

10. $x - 2y - 2z = 9$
$x + y + z = -9$
$x - 4y - 4z = 21$

Infinite Solutions

11. $4x - 3y + 5z = -19$
$3x - y - 8z = -21$
$-2x + y + 3z = 13$

(-3, 4, 1)

12. $2x - 2y + z = 7$
$4x - 4y + 2z = 17$
$3x + 2y - 6z = -2$

NO Solutions

13. $4x + 2y + 3z = 11$
$x - 2y + z = 6$
$2x + y + 2z = 7$

(1, -1, 3)

14. If the three sides of a triangle x, y, and z are related by the system of equations. What type of triangle is formed? What are the lengths of the sides?

$2x - y + z = 14$
$x + y = 14$
$2y - z = 7$

(7, 7, 7)
equilateral