Name:_____ Algebra II – Quarterly 1 Exam Review(Adv)

1. Solve the linear system. $\begin{cases} x-y+2z=11 \\ 2y+z=5 \\ z=-3 \end{cases}$

2. Identify the solutions of $x^2-7x+10=0$.

3. Solve for x $-x^2+4=-8$

4. Solve the equation by completing the square. $x^2+8x-6=0$

5. Solve the equation using the quadratic formula. $4x^2-6x-3=0$

6. Find the discriminant of the equation and state the number of REAL solutions. $3x^2-7x+2=0$

7. Factor the polynomial $5x^2-13x-6$

8. Factor the polynomial $9x^2-16$

9. Factor the polynomial $x^2-9x+20$

10. Solve $|3-5x|=1$

11. Evaluate $f(-4)$ if $f(x)=2x^2-2x-1$.

12. What is the vertex of the function: $y=2(x+2)^2-3$

13. What is the maximum value of the function $y=-3x^2+6x-5$

14. Solve the inequality $2+|x+2|\geq 5$

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15. Data from an experiment is shown in the table below. What is the quadratic regression for the real world data?

X	8	10	12	14	16	18
Y	52	64	72	78	81	76

16. Graph $y=|x+3|-1$.

Open Ended – 10 Points Each

1. Write a system of equations for the word problem.
Ethan bought 1 pound of M&M's, 2 pounds of Swedish Fish and 1 pound of Snowcaps for $11.70. Kiersten bought 2 pounds of M&M's, 1 pound of Swedish Fish and 1 pound of Snowcaps for $12.40. Chris bought 3 pounds of M&M's, 1 pound of Swedish Fish and 2 pounds of Snowcaps for $19.10.
a.) Write a system of equations to represent the problem above.

b.) Solve to find the price of each item separately.

c.) How much would it cost for 2 pounds of M&M's, 3 pounds of Swedish Fish and 2 pounds of snowcaps?

2. Solve the quadratic equation below using 2 of the methods we studied this year.
You MUST show ALL of your work to receive credit.
$x^2 - 14x + 48 = 0$