Algebra II Name _____

Review – Functions #2

1. Create 2 mapping diagrams, one that represents a function and one that represents a non-function.

2. Show a sketch of a function and a sketch of non-function.

Suppose $f(x) = -x^2 + 3x - 5$ and $g(x) = -3x + 7$, find the following.

3. f(-1)

4. g(3) – f(2)

5. $\sqrt{g(-3)}$

Find the slope of the line containing the two points.

6. (2, -3) and (-5, -7)

7. (-1, 6) and (4, 5)

Use point-slope form the find the equation of the line given:

8. the line contains (-5, 2) and (-4, 6)

9. the line contains (-3, -7) and (-3, 1)

10. Determine the x-intercept and y-intercept of $(y+5) = \frac{2}{3}(x-6)$

For each of the following state the parent function, transformations, domain and range. Make a sketch of the function.

11. f(x) =-2 |x – 4| + 3

12. $g(x) = \frac{3}{4}\sqrt{x+5}$

Given the parent function and a description of the transformations, write the equation of the transformed function.

13. Quadratic – reflected over the x-axis and shifted down 7 units

14. Cubic – less steep, shift left 4 units and up 2 units

Solve the following systems.

15. 2x + 4y = -10
x + 3y = 6

16. x – y + z = -3
2x – y + 5z = 4
4x + 2y – z = 2

7. The table shows the tuition costs for a private school between the years 2010 and 2013.

Years after 2010, x	0	1	2	3
Tuition (dollars), y	36,208	37,620	39,088	40,594

a. Verify that the data show a linear relationship. Find the equation of the line of best fit.

b. Interpret the slope in context to the problem.

c. Predict the cost of tuition in 2015.