Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_

Review #2 3rd Quarter Quarterly Algebra 2

1) Solve for x: 

2) What is the inverse of 

3) Find the intersection of f(x) =  and g(x) = log(x + 2) + 4 to the nearest tenth.

4) An angle that measures  radians is drawn in standard position. In which quadrant does the terminal side of the angle lie?

5) John invests $10,000 at an annual rate of 5% compounded continuously, according to the formula A = Pert, where A is the amount accrued, P is the principle, r is the rate of interest and t is the time in years. Determine how long to the nearest tenth of a year, it will take for the initial investment to double.

6) If the terminal side of angle θ passes through the point (-4,3), what is the value of csc θ?

7) If sin θ < 0 and cot θ > 0, in which quadrant does the terminal side of angle θ lie?

8) Algebraically find the x – coordinate where line y = 3x – 5 intersects the circle

(x - 1)2 + (y + 2)2 = 25.

9) A given substance has a half-life of 40 years. The weight of the given substance is 120g. Determine how long to the nearest tenth of a year, for the remaining substance to weigh 30g.

10) Your grandparents gave you $5,000 to invest for your college when you are born. You have two investment options. One will pay 3.4% interest compounded monthly, $A=P\left(1+\frac{r}{n}\right)^{nt}$. The second will pay 3.6% compounded continuously ($A=Pe^{rt}$).

* 1. Write a function for each option. that calculates the value of each account after *n* years.
	2. Determine which plan will have more money saved in 18 years.
	3. Algebraically determine, to the *nearest tenth of a year*, how long it would take for the second plan to reach $13,000

11) Algebraically solve the following system of equations:

-2x + y + 6z = 1

3x + 2y + 5z = 16

7x + 3y – 4z = 11

12) Sketch at least one cycle of the function y = -3sin2x + 4.

