**Name _____ Quiz: (B) Thurs 2/27 and (A) Fri 2/28**
**ALG2RCC Regents Review #7**

*This is a study tool for the next regents review quiz.*

1. For some number $t$, the first three terms in the arithmetic sequence are $t + 6,\ 2t - 3, and\ 6t + 6.$

   a) What is the numerical value of $t$?

   b) What is the numerical value of the fourth term?

2. What is the equation of a circle in general form whose center is $(1, 4)$ and whose diameter is 10?

3. What is the radius, in simplest radical form, of the circle whose equation is $3x^2 + 3y^2 - 12x + 24y - 15 = 0$?

4. What is the solution set for the equation $\sqrt{3x + 16} = x + 2$

5. The value of a new car depreciates over time. Greg purchased a new car in June 2015. The value, V, of his car after t years can be modeled by the equation $\log_{0.8}\left(\frac{V}{17000}\right) = t$. What is the average decreasing rate per year of the value of the car from June 2015 to June 2017, to the nearest ten dollars per year?

Answers:

1) $t = -6, 4th\ term = -45$
2) $x^2 + y^2 - 2x - 8y - 8 = 0$
3) $r = 5\sqrt{3}$
4) $x = 3$
5) Decreasing by $\$3060/year$