Name _____ **Quiz: Thursday 3/7 Friday 3/8**

ALG2RCC Regents Review #8

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

1) Solve the equation $x^2 - 4x + 9 = 0$. Express the answer in $a + bi$ form.

2) Victoria purchased a house in 2010 for $90,000 and sold it in 2016 for $112,000. Assuming exponential growth, approximate the annual growth rate, to the nearest hundredth of a percent.

3) Which function shown below has the smaller average rate of change on the interval [-1, 1]. Justify your answer.

$f(x) = \left(\frac{4}{3}\right)^x$

x	-3	-2	-1	0	1	2	3	4
$g(x)$	7	6	7	10	15	22	31	42

4) State the formula for the nth term of the sequence $3, -6, 12, -24, 48$ ...

5)

Express $\frac{12x^{-5}y^5}{24x^{-3}y^{-2}}$ in simplest form, using only positive exponents.

Answers:

1) $2 \pm i\sqrt{5}$ 2) 3.71% 3) $f(x)\ since\ \Delta f(x) = \frac{7}{24}\ and\ \Delta g(x) = 4$

4) $a_n = 3(-2)^{n-1}$ 5) $\frac{y^7}{2x^2}$