

Name _____

Quiz: Thursday 2/6 & Friday 2/7

ALG2RCC Regents Review #6

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

1. Find the number of terms, algebraically, in a geometric series if the first term is 3, the common ratio is 4, and the sum of the series is 1,023.

2. The population, P , of prairie dogs increases according to the equation $P = 2250e^{rt}$, where t is the number of years, and r is the rate of growth. Solve for r in terms of P and t .

3. The cost of pens varies directly as the number of dozens purchased. If 4 dozen cost \$10.60, how much will 7 dozen cost?

4. Put in vertex form: $3x^2 + 2x = 10$
Identify the vertex.

5. Simplify the following with positive exponents only:

A) $\frac{12a^{-3}b^9}{21a^2b^{-5}}$

B) $(5g^4h^{-3})^{-3}$

C) $(2m^3n^{-1})(8m^4n^{-2})$

Answers:

$$1) 5 \quad 2) r = \frac{\ln\left(\frac{P}{2250}\right)}{t} \quad 3) \$18.55$$

$$4) 3 \left(x + \frac{1}{3}\right)^2 - \frac{31}{3} \quad \left(-\frac{1}{3}, -\frac{31}{3}\right)$$

$$5) A) \frac{4b^{14}}{7a^5} \quad B) \frac{h^9}{125g^{12}} \quad C) \frac{16m^7}{n^3}$$