BECA/Huson/Algebra II: Regents Prep   Name:
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Practice Regents problems #9

AII-F.BF.6 Represent and evaluate the sum of a finite arithmetic or finite geometric series, using summation (sigma) notation. For geometric series:

$$\sum_{k=1}^{n} a_k = a_1 + a_2 + \ldots + a_n = a_1 \left(\frac{1 - r^n}{1 - r} \right)$$

1. Given the geometric sequence 55, 77, 107.8, 150.92, ...

   (a) Find the common ratio r.

   (b) Write a recursive formula for the sequence.

   (c) Write an explicit formula for the sequence.

   (d) Find the sum of the first seven terms the sequence rounded to the *nearest tenth.*

2. Express each of the following using rational or integer exponents.

   (a) $\sqrt[3]{8x^4}$ (b) $\sqrt[5]{x^{10}} \sqrt[3]{x^{-2}}$

AII-F.LE.2: Construct a linear or exponential function symbolically given: a graph, a description of the relationship, or two input-output pairs (include reading these from a table).

3. Determine algebraically how long it would take an investment to double, to the *nearest tenth of a year*, given 4.25% interest rate, compounded continuously.