

Chapter 6 Review

- 1) For each of the following, write whether the sequence is arithmetic, geometric, or neither. If it is arithmetic write its slope; if it is geometric, write its common multiplier. Write part (c) recursively.
- a. 14, 18, 22, 26, 30, b. 1, 4, 9, 16, 25, 36, c. 4, 6, 9, 13.5, 20.25,
- 2) Write each expression in exponential form.
- a. $(3)(3)(3)(5)(5)$ b. $(1 + 0.09)(1 + 0.09)(1 + 0.09)(1 + 0.09)$
- 3) Any constant percent growth can be modeled by the exponential equation $y = A(1 + r)^x$.
- a. Which letter in the equation above represents the amount of time it would take a deposit of \$1000 to turn into \$2000 with an 8% annual interest rate?
- b. Substitute the other numbers into the equation. You do not have to solve the equation.
- 4) A table that Anne Teak owns is currently worth \$300 and is growing by 12% each year.
- a. Write an expression that would calculate the table's value in 2012. b. Find the value of part (a).
- c. Write an expression that would calculate how much the table was worth in 2006. d. Find the value of part (c).
- 5) The equation $y = 4500(1 - 0.09)^x$ models how much money Penny Nichols has in her savings account. Explain what:
- a. The number 4500 means. b. The number -0.09 means.
- 6) Change the following from scientific notation to standard notation or vice versa.
- a. The GDP of the United States is approximately \$14,084,000,000,000. b. The mass of a proton is 1.672×10^{-27} kilograms.
- c. There are 2×10^{11} stars in the Milky Way. d. A supercomputer can perform a calculation in 0.00000000000000000625 seconds.

