Name_____ Period_____

Review - Chapter 5

1. Complete the table below for an initial deposit of $10,000 at a rate of 1.5%. Round each amount to the nearest dollar.

Time	6 months	1 year	5 years	20 years
Simple Interest Balance				
Compound Interest Balance				

2. Identify each of the following for the function $f(x) = -4 \cdot 2^x$. Then graph the function.
   a. x-intercept

   b. y-intercept

   c. asymptote

   d. domain

   e. range

   f. interval(s) of increase/decrease

3. Write the equation of each function after the translation described.
   a. f(x) = 5x after a translation 3 units to the left

   b. $g(x) = 2^x$ after a translation 6 units down

   c. $h(x) = 4x^2$ after a translation 5 units right and 3 units up

4. Write the exponential function represented by the table of values.

x	0	1	2	3
y	-3	-12	-48	-192

5. Rewrite the function g(x) in terms of the basic function f(x).
   a. $f(x) = x^3$
      $g(x) = (x - 6)^3$
   b. $f(x) = -5^x$
      $g(x) = -5^x + 9$

6. Represent each translation, g(x), using coordinate notation.
   a. $f(x) = x^2$
      $g(x) = x^2 - 4$
   b. $f(x) = 4^x$
      $g(x) = 4^{x-5}$

7. Sam graphed the function $f(x) = -4^x$.
   a. Write a function that is a reflection of the function about the vertical line x = 0.

   b. Write a function that is a reflection of the function about the horizontal line y = 0.

8. Describe each graph in relation to its basic function.
   a. Compare $f(x) = x^2 - 7$ to the basic function $h(x) = x^2$.

   b. Compare $f(x) = (b - 2)^x$ to the basic function $h(x) = b^x$.

   c. Compare $f(x) = x^2 - 7$ to the basic function $h(x) = x^2$.

9. Write each expression in a rational exponent form.
   a. $\sqrt[4]{6}$
   b. $\sqrt[3]{x^2}$

10. Write each expression in radical form.
   a. $7^{\frac{1}{3}}$
   b. $6^{\frac{1}{9}}$

10. Solve each exponential equation for x.
   a. $3^{4x} = 531{,}441$
   b. $5^{x-1} = \frac{1}{625}$