

Name: _____ Period _____

7.2 Practice Day 1

Write the exponential function that passes through the given points

1. $(0,3)$ and $(2,12)$

2. $(0,16)$ and $(3,.25)$

3. $(0,.5)$ and $(4,40.5)$

4. $(0,256)$ and $(4,81)$

5. Ahmed's consulting firm began with 23 clients. After 7 years, he now has 393 clients. Write an exponential equation describing the firm's growth.

For each of the following write the function that models the scenario and then answer the questions that follow.

5. The number of registered users on a website was 5000 in 2000. During the next 6 years, the number of registered users increased by about 40% each year.

a. Initial Amount: _____ % Increase or Decrease: _____

Growth/Decay Factor $(1 \pm r)$: _____ Model: _____

b. How many users were there in 2004?

c. In approximately what year were there 120000 users.

6. A savings account at the bank earns 3% interest compounded annually. At the beginning of the year, you deposit \$2000 into this account. You want to know what the value of this account will be in t years if no other deposits are made.

a. Initial Amount: _____ % Increase: _____

Compounding: _____ Model: _____

b. How much money will there be in 3 years? How much money will there be in 5 years?

c. In approximately how many years will the \$\$ double?

7. The temperature of a 100°F object cools at a rate of 10% each hour.

a. Initial Amount: _____ % Increase or Decrease: _____

Growth/Decay Factor ($1 \pm r$): _____ Model: _____

b. What temperature is the object in 5 hours?

c. How long will it take to reach 80°F ?

8. Julie invests \$3500 into an account that pays 3.5% yearly interest. How much money will Julie have in 5 years if the interest is

a. compounded monthly? _____ b. compounded quarterly? _____

c. compounded semi-annually? _____ d. compounded daily? _____