**Exponential Growth** **Exponential Decay**

  

y = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

P = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

t = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

r = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ r = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1+r = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 1- r = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

In 2000, the cost of tuition at a state university was $4300. During the next 8 years, the tuition rose 4% each year.

1. Write a model the gives the tuition y (in dollars) t years after 2000.
2. What is the growth factor?
3. How much would it cost to attend college in 2010? In 2015?
4. How long it will take for tuition to reach $9000?

A 2010 Honda Accord, depreciates at a rate of 11% per year. The car was purchased for $25,000.

1. Write a model the gives the value of the car y (in dollars) t years after 2010.
2. What is the decay factor?
3. How much is the car worth now? In 2020?
4. How long did it take for the car to be worth half?

9. Given the equation y = 25(0.73)x

a) Does this equation represent growth or decay? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 b) What is the rate of growth or decay? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 c) What is the initial value? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 d) Evaluate for x = 3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_