

Name: _____ Date: _____

Growth: $y = P(1+r)^t$ 1. Given the equation $y = 15(1.75)^x$

a) Which value reflects growth (15, 1.75, or x)?

1.75

b) What is the rate of growth?

.75

c) What is the initial value?

15d) Evaluate for $x = 4$ (round to the nearest tenth)140.682. Given the equation $y = 25(1.23)^x$

a) Which value reflects growth (25, 1.23, or x)?

1.23

b) What is the rate of growth?

.23

c) What is the initial value?

25d) Evaluate for $x = 2$ (round to the nearest tenth)37.8**Decay: $y = P(1-r)^t$** 1) Given the equation $y = 24(.7)^x$

a) What is the Decay Factor?

.7

b) What is the rate of decay?

.3

c) What is the initial value?

24d) Evaluate for $x = 6$ (round to the nearest tenth)2.822) Given the equation $y = 8(.23)^x$

a) What is the Decay Factor?

.23

b) What is the rate of decay?

.77

c) What is the initial value?

8d) Evaluate for $x = 4$ (round to the nearest tenth)0.02

3. 3) The tuition at UGA is \$35,000. The tuition has about a 7.2% annual increase.

a) What is the initial value (P)?

35000b) Is this growth/decay? What is the rate of change(r)?growth 0.072

c) Write an exponential equation describing this situation.

 $35000(1.072)^x$

d) How much will the tuition be 5 years from now?

\$49,549.80