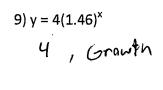
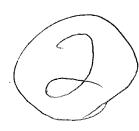
Without graphing, determine whether the function represents exponential growth or exponential decay. Then find the y-intercept.





10)
$$y = 2\left(\frac{9}{10}\right)^x$$

$$2 / Dec_{\sim} y$$

$$11) y = 6 \left(\frac{11}{6}\right)^x$$

12)
$$y = \frac{5}{99} \left(\frac{4}{3}\right)^x$$

Use the formula $A = a(1+r)^t$ to answer the following.



13) You own a business that is growing exponentially at a rate of 6.3% per year. The current number of employees is 50, and you like to know about how many employees you will have in 5 years if the company continues to grow at the same rate. How many will you have?

14) A house is purchased for \$230,000. Just after purchasing the house, the market begins to go down exponentially at a rate of 2% a year. How much is the house worth after 3 years? After 6 years?

$$A = 230,000(1-0.02)^{3} = 16474.16$$
 $A = 230,000(1-0.02)^{6} = 15203743.75$

15) A car depreciates at a rate of 5.1% per year. The original price of the vehicle is \$29,000. What is the price of the vehicle after 3 years?

$$A = 29,000 (1 - 0.051)^{3} + 24785.44$$