

4/29 Algebra 1 - Downing

$$y = a(b)^x$$

↑  
y-int  
↓  
determines growth or decay

Exponential Growth



$$b > 1 \text{ (} b \text{ is bigger than 1)}$$

Ex)  $f(x) = 500(1.035)^x$   
1 + .035 ←  
% growth of 3.5%

Ex)  $h(x) = 5(3)^x$

Exponential Decay



$$0 < b < 1$$

Ex)  $g(x) = 500(.98)^x$   
1 - .02  
↑  
2% decay

Ex)  $j(x) = 8\left(\frac{1}{4}\right)^x$

The function  $f(x) = 500(1.035)^x$  models the amount of money in a certificate of deposit after  $x$  years. How much money will there be in 6 years?

$$f(x) = 500(1.035)^x$$

$$f(6) = 500(1.035)^6 = \$614.63$$