Exponential Growth and Decay

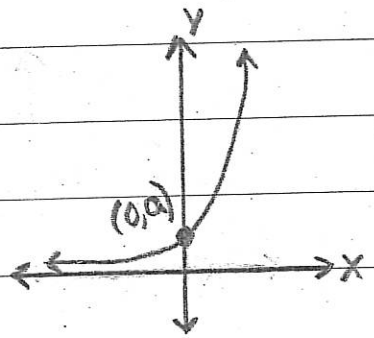
Exponential Growth

$y = a \cdot b^x$

a = initial amount ($x=0$)

b = base (>1)

b = growth factor



If increase by 6%,
then $b = 1.06$

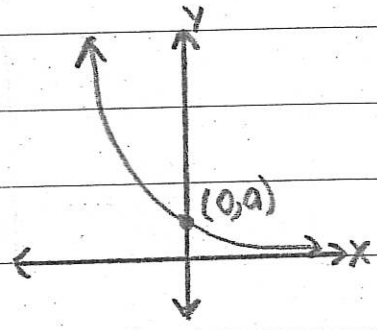
Exponential Decay

$y = a \cdot b^x$

a = initial amount ($x=0$)

b = base (<1)

b = decay factor



If decrease by 12%,
then $b = .88$

Compound Interest

$$A = P\left(1 + \frac{r}{n}\right)^{nt}$$

A = the balance
P = principal
r = rate (decimal)
n = number of times interest is compounded per year
t = time in years