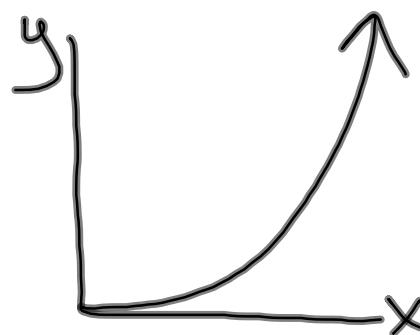


## Exponential Growth

EXP6

- nonlinear
- form of  $y=ab^x$ , where  $a \neq 0$ ,  $b > 0$ , and  $b \neq 1$
- as  $x$  increases by one,  $y$  increases by multiples of  $b$
- a quantity grows exponentially - increases by the same percent over equal periods of time

- $y = a(1 + r)^t$
- $a$  = initial amount
- $r$  = growth rate (as a decimal)
- $1+r$  = growth factor
- $t$  = time period



- **Compound interest** - interest is earned on the initial investment and on previously earned interest
- $a$  = initial investment,  $r$  = annual interest rate,  $t$  = number of years the money is invested