

October 18

GUIDED NOTES: Exponential Functions

An exponential function is a function in the general form $a = p(b)^t$

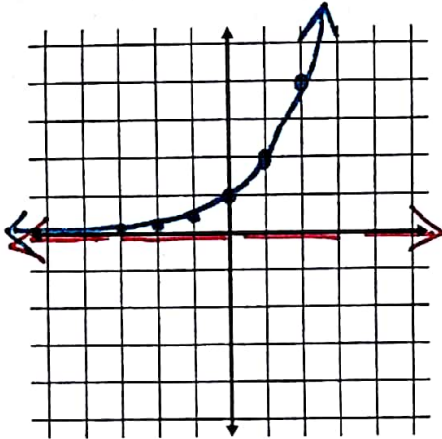
where $a =$ final amount $p =$ initial amount

$b =$ growth/decay factor $t =$ time periods

Growth: $b > 1$

Decay: $0 < b < 1$

EX1) $f(x) = 2^x$

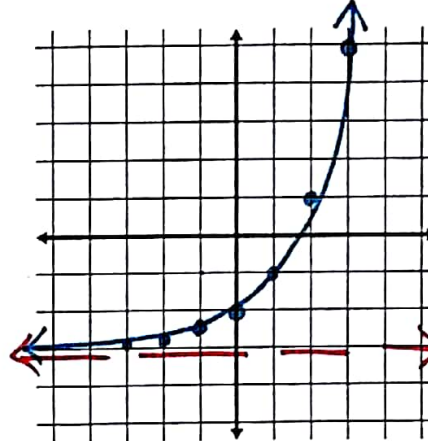


domain:
 $(-\infty, \infty)$

range:
 $(0, \infty)$

asymptote:
 $y = 0$

EX2) $f(x) = 2^x - 3$

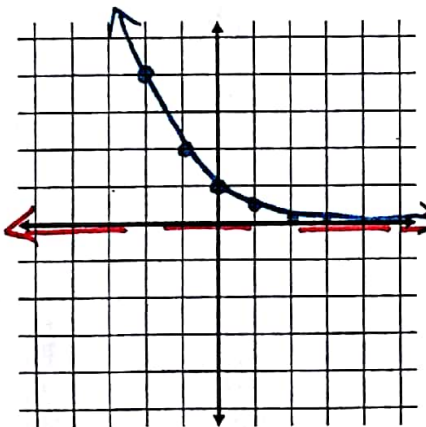


domain:
 $(-\infty, \infty)$

range:
 $(-3, \infty)$

asymptote:
 $y = -3$

EX3) $f(x) = (\frac{1}{2})^x$

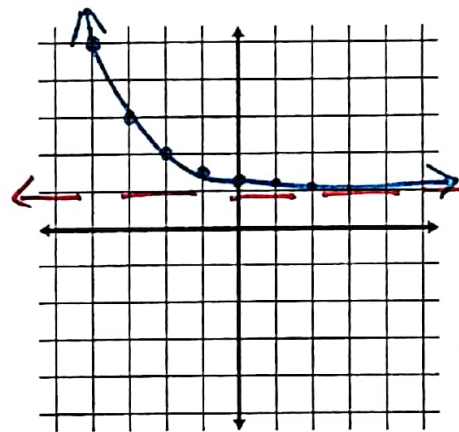


domain:
 $(-\infty, \infty)$

range:
 $(0, \infty)$

asymptote:
 $y = 0$

EX4) $f(x) = (\frac{1}{2})^{x+2} + 1$



domain:
 $(-\infty, \infty)$

range:
 $(1, \infty)$

asymptote:
 $y = 1$