

5/17

Algebra - Downing

6.3 Exponential Functions

- $f(x) = a b^x$ $a =$ starting value (y-int)
- $b =$ what each term is multiplied by
- values multiply by the same amount from one term to the next.

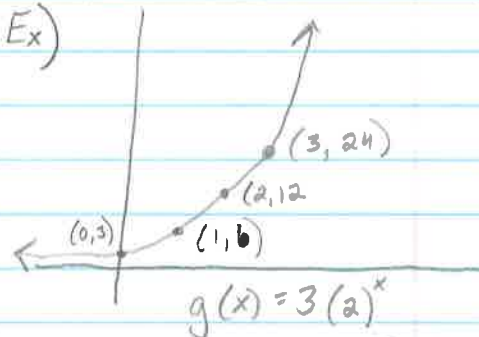
Ex)

x	y
0	5
1	15
2	45
3	135

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

$$f(x) = 5(3)^x$$

Ex)



Domain: $x \in \mathbb{R}$
Range: $y > 0$

Ex)

x	y
0	2
1	5
2	8
3	11

Linear Function

$$y = mx + b$$

$$y = 3x + 2$$

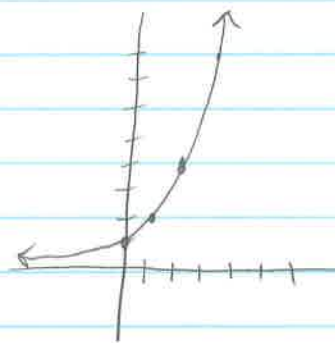
Ex)

Evaluate: $y = -2(5)^x$ for $x = 3$
 $y = -2(5)^3 = -250$

Ex)

Graph: $y = 1(2)^x$

x	y
0	1
1	2
2	4
3	8



HW - on-line