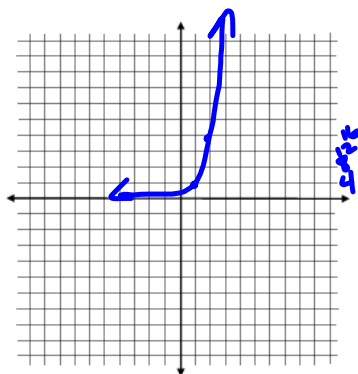


Graph the functions given and state if it is growth or decay

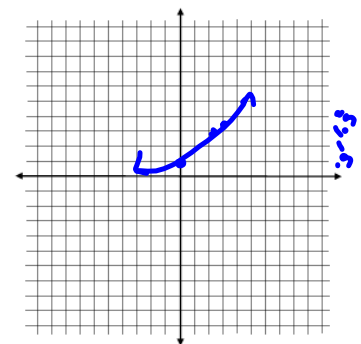
1. $f(x) = 4^x$

x	y
-3	.02
-2	.06
-1	.25
0	1
1	4
2	16
3	64



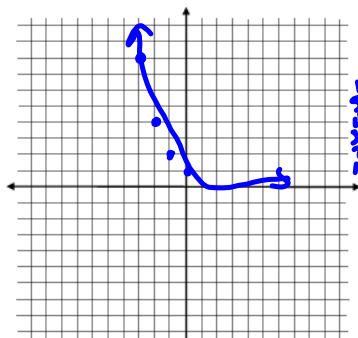
3. $f(x) = 1.25^x$

x	y
-3	.51
-2	.64
-1	.8
0	1
1	1.25
2	1.56
3	1.95



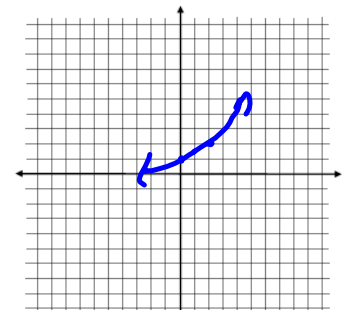
2. $f(x) = 0.5^x$

x	y
-3	8
-2	4
-1	2
0	1
1	.5
2	.25
3	.125



4. $f(x) = 2^{\frac{x}{2}}$

x	y
-3	.35
-2	.5
-1	.71
0	1
1	1.4
2	2
3	2.8



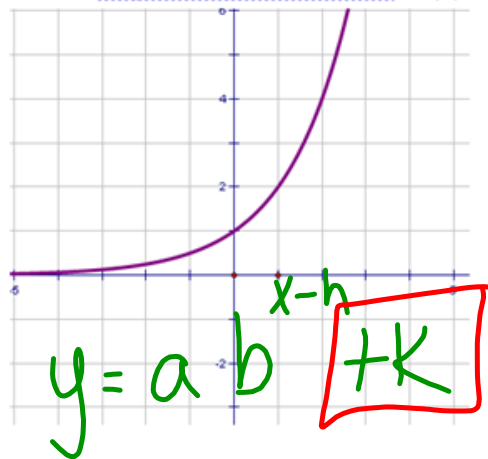
What are the Characteristics of Exponential Functions??

Domain:
 \mathbb{R}

Range:
 $(0, \infty)$
 $y > 0$

Interval of Increase:
 $(-\infty, \infty)$

Parent Exponential Function: $f(x) = 2^x$



Asymptote: a line
 $y = 0$

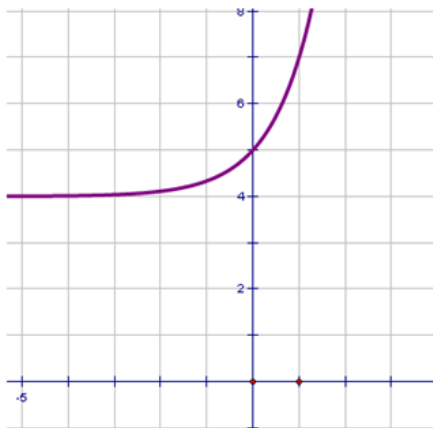
x-intercept:
None $(x, 0)$

y-intercept:
 $(0, 1)$ $(0, y)$

Interval of Decrease:
None

End Behavior:
 $x \rightarrow \infty$ as $f(x) \rightarrow \infty$
 $x \rightarrow -\infty$ as $f(x) \rightarrow 0$

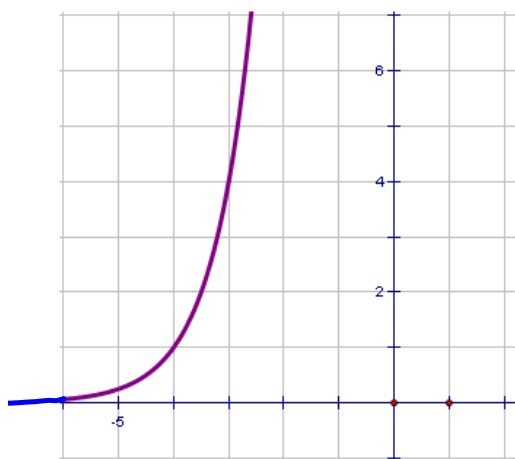
A.



domain: \mathbb{R}
 range: $(4, \infty)$ $y > 4$
 Asymptote: $y = 4$
 interval of increase: $(-\infty, \infty)$
 interval of decrease: None
 x-intercept(s): None
 y-intercept: $(0, 5)$

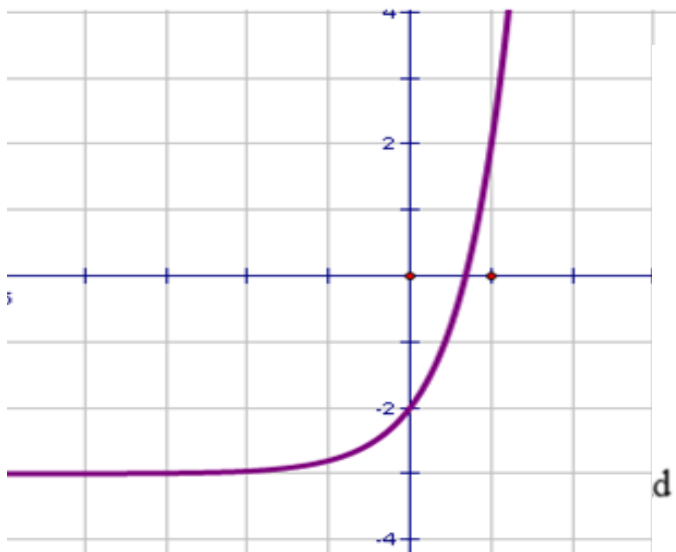
End Behavior $x \rightarrow \infty$ as $f(x) \rightarrow \infty$
 $x \rightarrow -\infty$ as $f(x) \rightarrow 4$

B.



domain: \mathbb{R}
 range: $(0, \infty)$
 Asymptote: $y = 0$
 interval of increase: $(-\infty, \infty)$
 interval of decrease: NONE
 x-intercept(s): NONE
 y-intercept: Not Shown

End Behavior: $x \rightarrow \infty$ as $f(x) \rightarrow \infty$
 $x \rightarrow -\infty$ as $f(x) \rightarrow 0$



domain: \mathbb{R}
 range: $(-3, \infty)$
 Asymptote: $y = -3$
 interval of increase: $(-\infty, \infty)$
 interval of decrease: NONE
 x-intercept(s): $(0.75, 0)$
 y-intercept: $(0, -2)$

End Behavior: $x \rightarrow \infty$ as $f(x) \rightarrow \infty$
 $x \rightarrow -\infty$ as $f(x) \rightarrow -3$

A: y:

domain: _____
 range: _____
 Asymptote: _____
 interval of increase: _____
 interval of decrease: _____
 x-intercept(s): _____
 y-intercept: _____

Behavior: $x \rightarrow \infty$ as $f(x) \rightarrow$ _____
 $x \rightarrow -\infty$ as $f(x) \rightarrow$ _____

