

Name: _____

Key



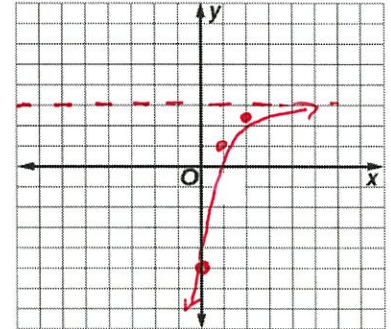
3.1 (day 1) Practice

1. Analyze the graph of $h(x) = -2\left(\frac{1}{4}\right)^{x-1} + 3$ and find the following information. Then, graph it.

Decay

Transformations: V.S., x-axis reflect, right 1, up 3,

End Behavior: $\lim_{x \rightarrow -\infty} h(x) = -\infty$ $\lim_{x \rightarrow \infty} h(x) = 3$



Domain: $(-\infty, \infty)$ Range: $(-\infty, 3)$

Asymptote Equation: $y = 3$

+1(x)		• (-2) y's		+3(y's)	
x	y	x	y	x	y
-1	4	0	4	0	-5
0	1	1	1	1	1
1	.25	2	.25	2	2.5

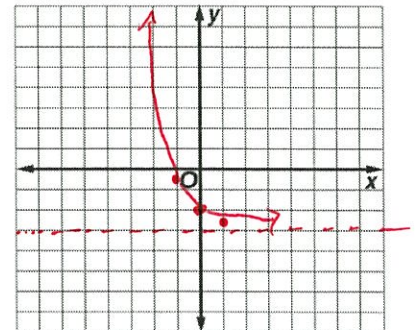
2. Analyze the graph of $j(x) = e^{-x} - 3$ and find the following information. Then, graph it.

$$e^1 \approx 2.7, e^{-1} \approx .4$$

growth

Transformations: y-axis reflect, down 3

End Behavior: $\lim_{x \rightarrow -\infty} j(x) = \infty$ $\lim_{x \rightarrow \infty} j(x) = -3$



Domain: $(-\infty, \infty)$ Range: $(-3, \infty)$

Asymptote Equation: $y = -3$

• (-1) x's		• (-3) y's	
x	y	x	y
0	1	0	-2
1	2.7	-1	-2.3
-1	.4	1	-2.6