

LTAAMB

How do I graph Exponential and Logarithmic Functions?

1/23

Exponential

$$y = \left(\frac{1}{4}\right)^{x-1} - 1$$

$$b = \frac{1}{4} \downarrow$$

asymptote

$$y = -1$$

1. Identify b

2. Identify asymptote

3. Find x and y intercepts

X-int, $y=0$

$$0 = \left(\frac{1}{4}\right)^{x-1} - 1$$

+1

+1

$$1 = \left(\frac{1}{4}\right)^{x-1}$$

$$\log_{25} 1 = x-1$$

$$\frac{\log 1}{\log 25} = x-1$$

$$\log_{25} 1$$

$$0 = x-1$$

$$+1 \quad +1$$

$$1 = x$$

$$(1, 0)$$

y-int., $x=0$

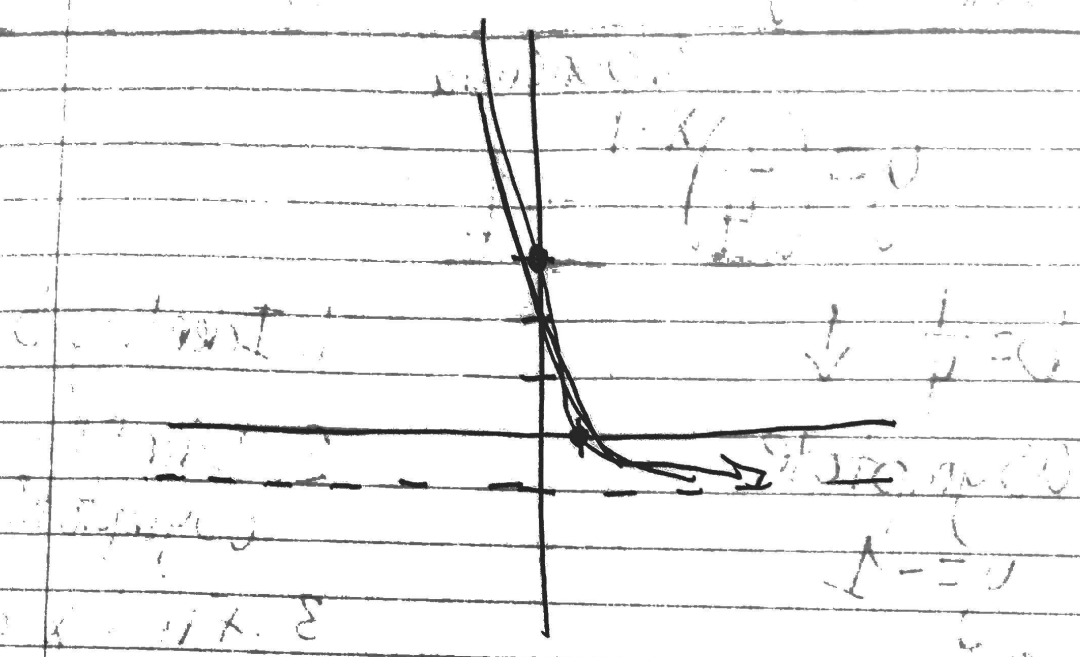
$$y = \left(\frac{1}{4}\right)^{0-1} - 1$$

$$= (25)^{-1} - 1$$

$$= 3$$

$$(0, 3)$$

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Handwritten notes on the left side of the graph, possibly describing the axes or the curve.

$$0 = x_1 \tan \mu$$

$$0 = \mu \tan x$$

$$I = \left(\frac{1}{P} \right) N$$

$$I = \left(\frac{1}{P} \right) = 0$$

$$I = \left(\frac{25}{1} \right) =$$

$$I = \left(\frac{1}{1} \right) = I$$

$$(8, 0)$$

$$I = X = 1$$

$$I = X = 1$$

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Logarithm

$$y = \log_4(x-1) - 1$$

$$b = 4 \uparrow$$

asymptote

$$x = 1$$

1. Identify b

2. Identify asymptote

$$x = h$$

3. Find x and y intercepts

x -int, $y = 0$

$$0 = \log_4(x-1) - 1$$

y -int., $x = 0$

$$y = \log_4(0-1) - 1$$

$$= \log_4(-1) - 1$$

no y -int.

$$1 = \log_4(x-1)$$

$$4^1 = x-1$$

$$4 = x-1$$

$$5 = x$$

$$(5, 0)$$

