

Compute the exact value of the function for the given x-value without using a calculator

1. $f(x) = 3 \cdot 5^x$ for $x = 0$

2. $f(x) = -2 \cdot 27^x$ for $x = \frac{1}{3}$

3. $f(x) = 8 \cdot 4^x$ for $x = -\frac{3}{2}$

4. $f(x) = 6 \cdot 3^x$ for $x = -2$

Compute the exact value of the function for the given x-value without using a calculator

1. $f(x) = -3 \cdot 8^x$ for $x = \frac{1}{3}$

2. $f(x) = -3 \cdot 16^x$ for $x = -\frac{1}{2}$

3. $f(x) = 6 \cdot 4^x$ for $x = \frac{3}{2}$

4. $f(x) = 6 \cdot 3^x$ for $x = -3$

Determine whether the function is growth or decay

1. $f(x) = 8^x$

2. $f(x) = (.6)^x$

3. $f(x) = 4^{-x}$

4. $f(x) = \left(\frac{3}{4}\right)^{-x}$

Find the y-int, the Horizontal Asymptotes, then sketch a graph of the logistic growth function

1. $f(x) = \frac{10}{1 + e^{-x}}$

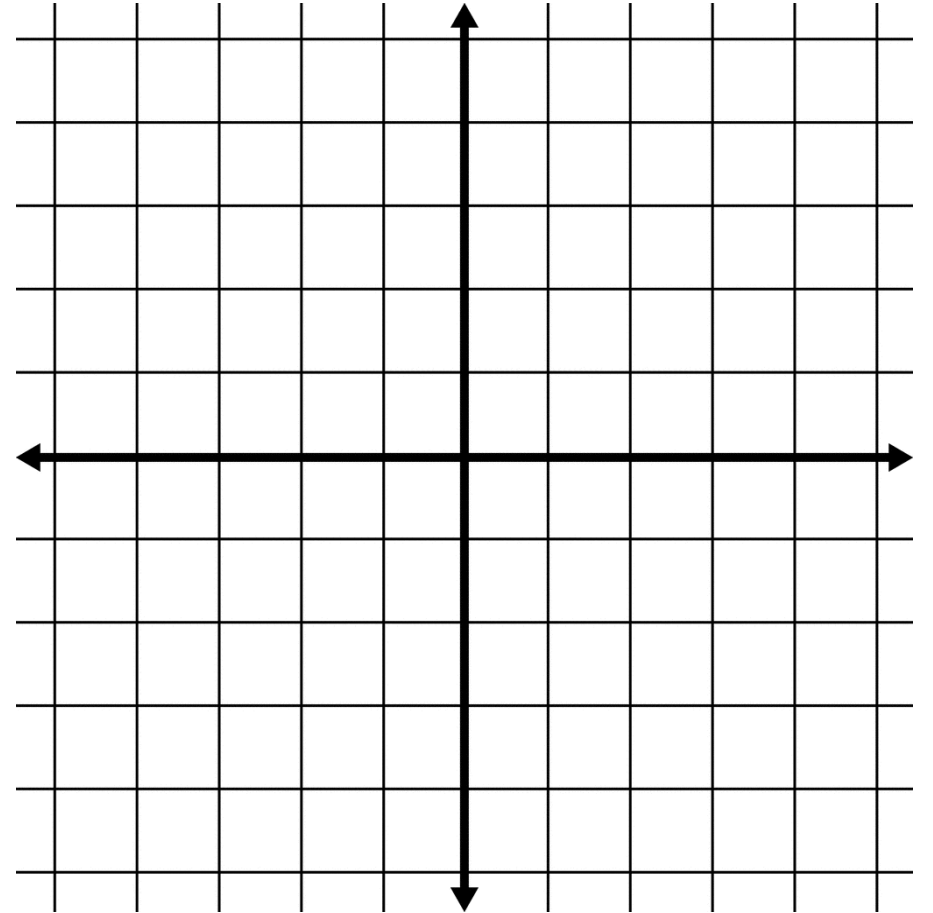
2. $f(x) = \frac{4}{1 + .2^x}$

Describe the transformation from the base logarithm then answer questions one and two to help sketch the graph.

$$f(x) = \ln(x - 2) + 3$$

1) Determine the vertical asymptote

2) Determine the x-intercept

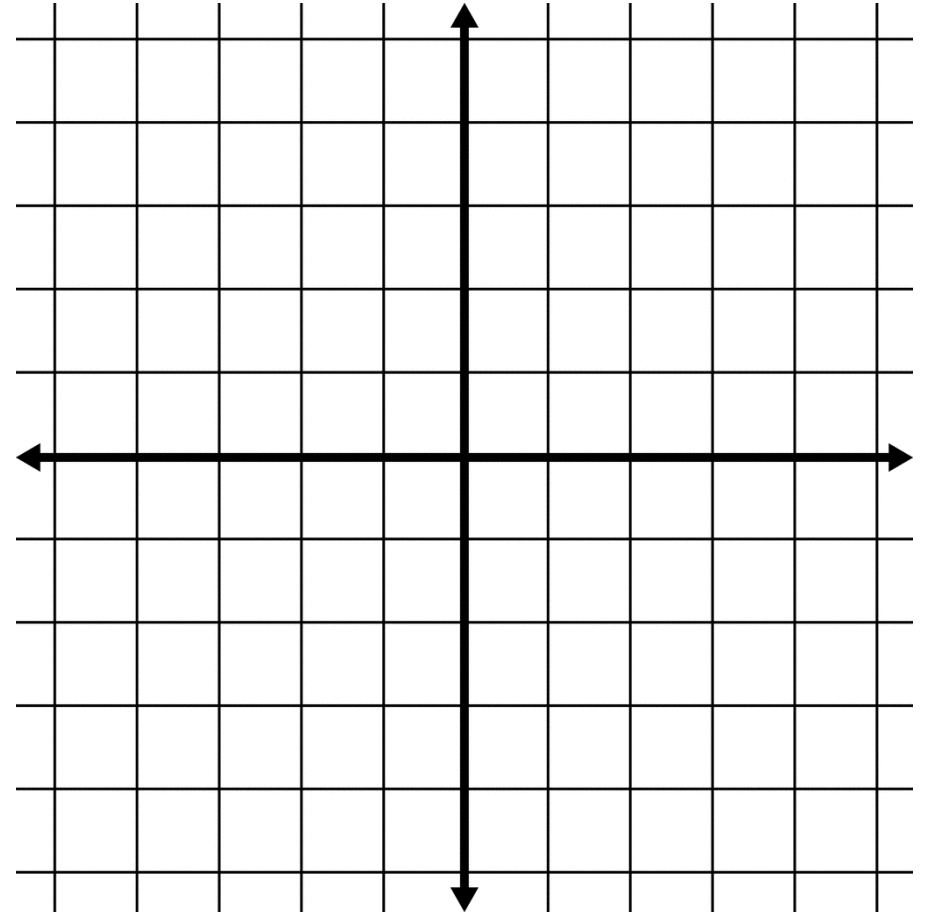


Describe the transformation from the base logarithm then answer questions one and two to help sketch the graph.

$$f(x) = -2\ln(-x) - 1$$

1) Determine the vertical asymptote

2) Determine the x-intercept

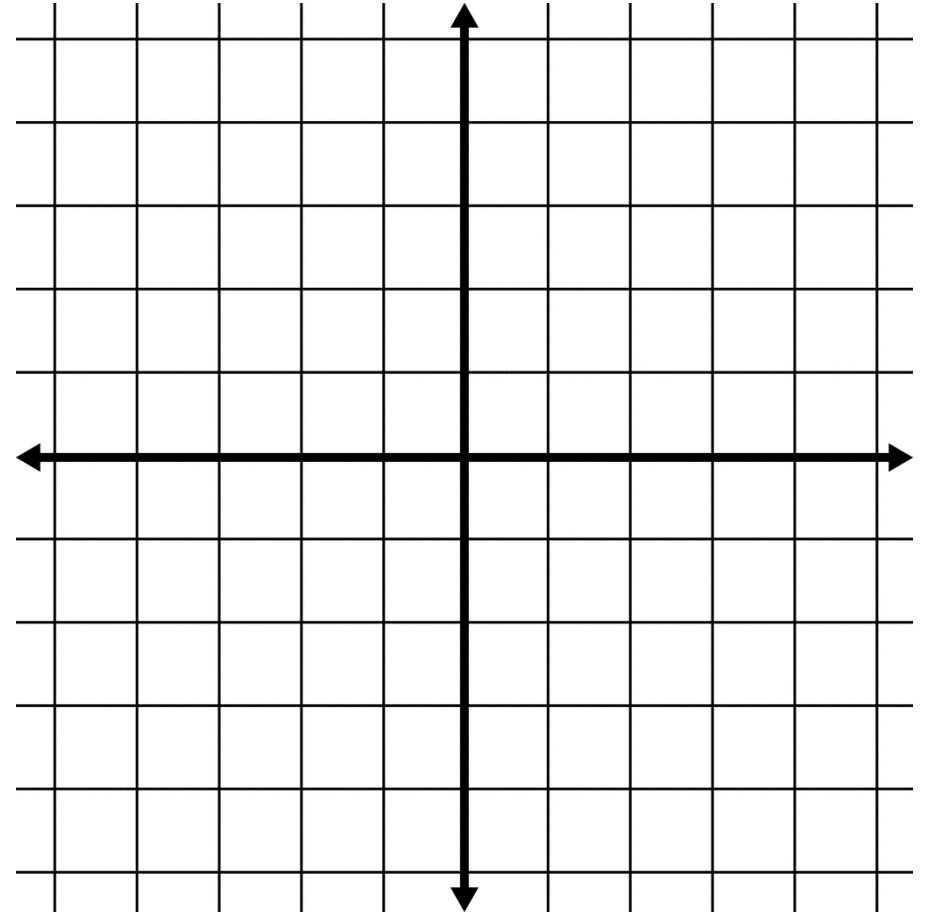


Describe the transformation from the base logarithm then answer questions one and two to help sketch the graph.

$$f(x) = \log(4x) - 1$$

1) Determine the vertical asymptote

2) Determine the x-intercept

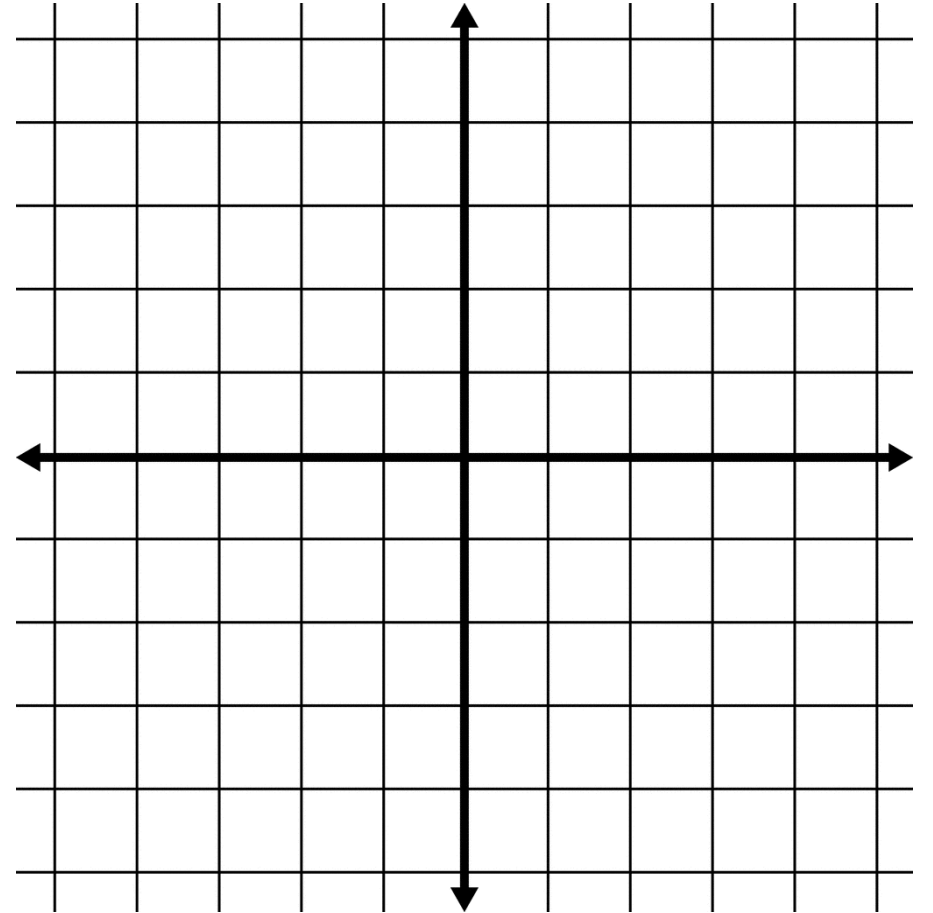


Describe the transformation from the base logarithm then answer questions one and two to help sketch the graph.

$$f(x) = 3\log(x + 4)$$

1) Determine the vertical asymptote

2) Determine the x-intercept

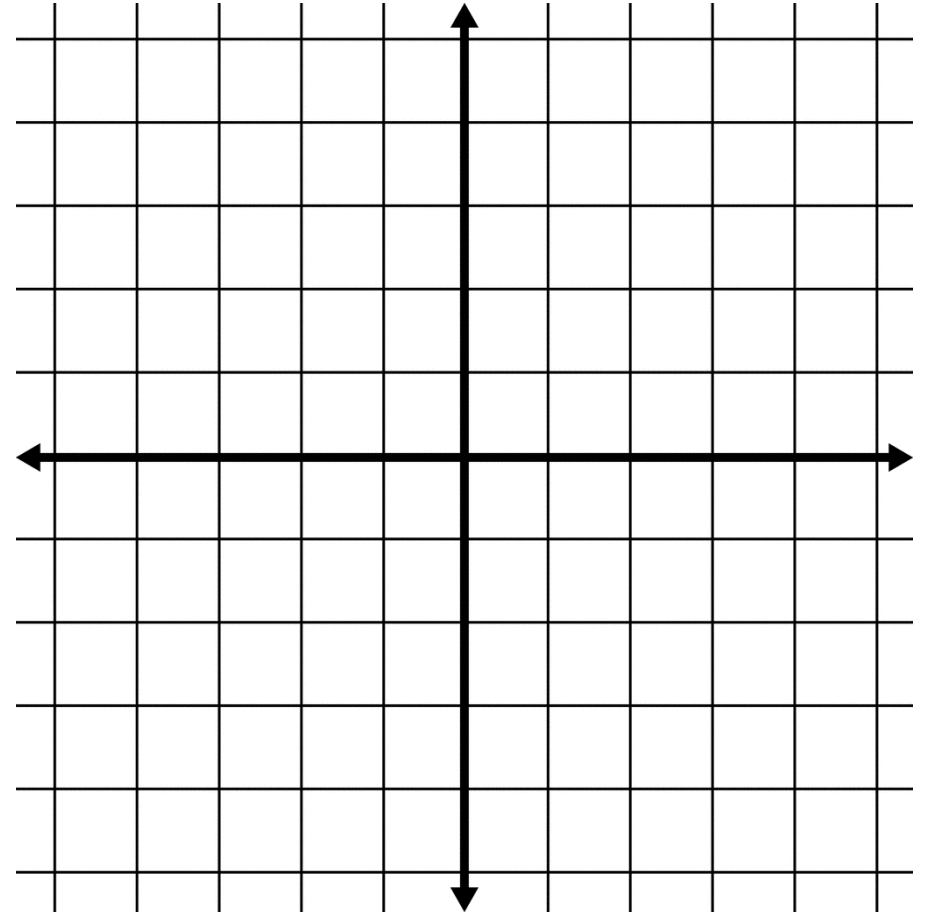


Describe the transformation from the base logarithm then answer questions one and two to help sketch the graph.

$$f(x) = 2\ln(x-1) - 1$$

1) Determine the vertical asymptote

2) Determine the x-intercept



Evaluate without using a calculator

1. $\log_5 5 =$

2. $\log_2 16 =$

3. $\log \sqrt{10} =$

4. $\log 10^{-5} =$

Find the y-int, the Horizontal Asymptotes, then sketch a graph of each function

1. $f(x) = 5^x$

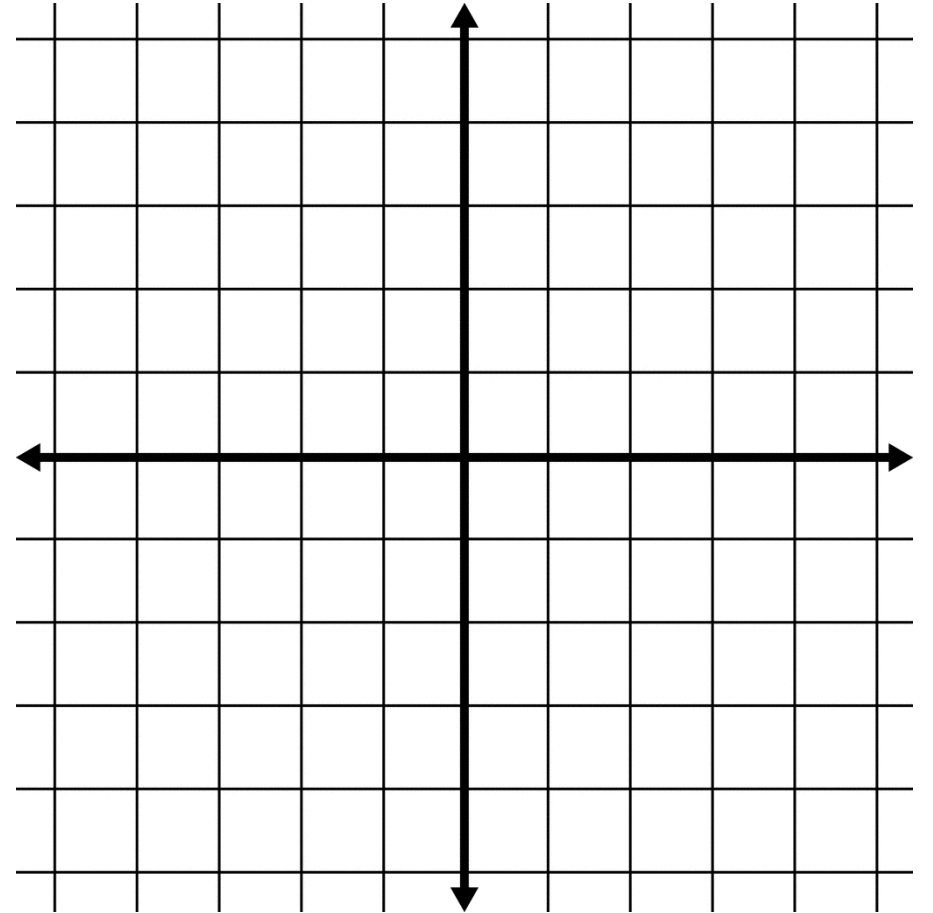
2. $f(x) = \frac{6}{1 + 2e^{-x}}$

Describe the transformation from the base logarithm then answer questions one and two to help sketch the graph.

$$f(x) = -5 \ln(2 - x) - 1$$

1) Determine the vertical asymptote

2) Determine the x-intercept

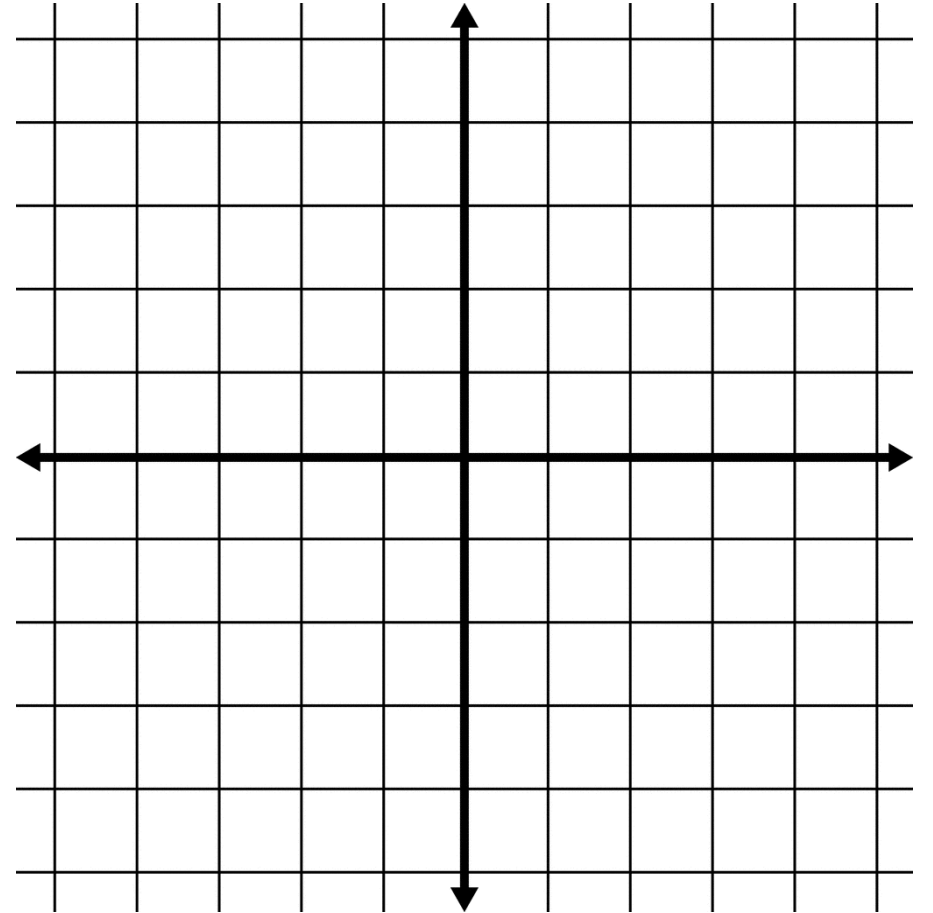


Describe the transformation from the base logarithm then answer questions one and two to help sketch the graph.

$$f(x) = 3\log(2x) + 3$$

1) Determine the vertical asymptote

2) Determine the x-intercept



Expand each logarithm

$$7) \log \frac{x}{y^6}$$

$$8) \log (a \cdot b)^2$$

$$9) \log \frac{u^4}{v}$$

$$10) \log \frac{x}{y^5}$$

$$11) \log \sqrt[3]{x \cdot y \cdot z}$$

$$12) \log (x \cdot y \cdot z^2)$$

Condense each logarithm

19) $6\log_3 u + 6\log_3 v$

20) $\ln x - 4\ln y$

21) $\log_4 u - 6\log_4 v$

22) $\log_3 u - 5\log_3 v$

23) $20\log_6 u + 5\log_6 v$

24) $4\log_3 u - 20\log_3 v$