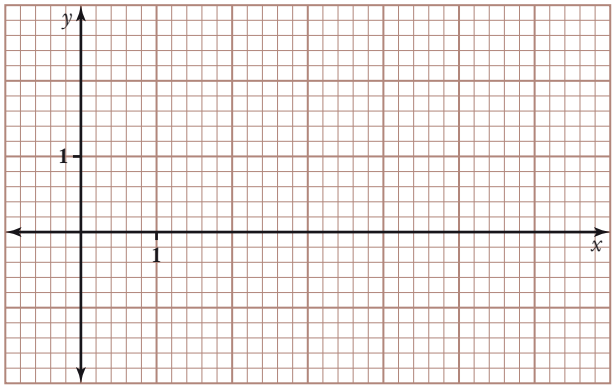
WORKSHEET

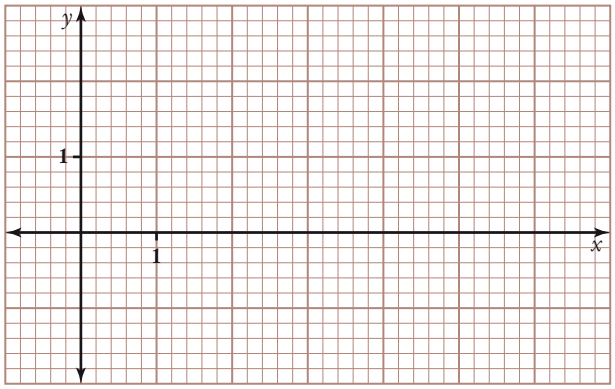
Plotting log functions

1 Plot a graph to solve each of the following.

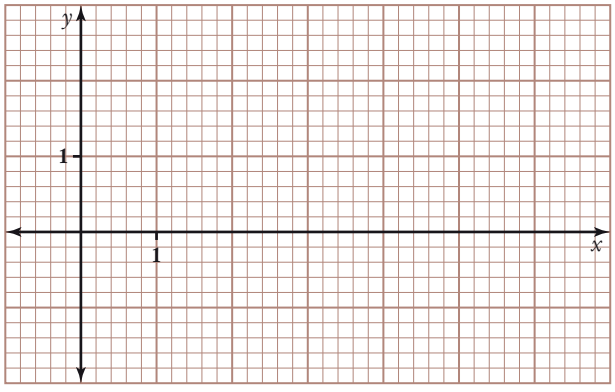
a $\log_2(x) = 2.6$



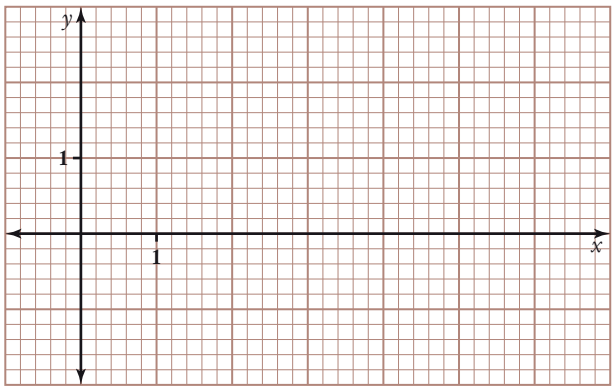
b $\log_5(x) = -0.6$



c $\log_{0.5}(x) = -1.2$



d $\log_3(x) = 0.8$



2 Sketch the graph of each of the following, labelling important features.

a $\log_2(x) - 1$

b $\log_{0.5}(x) + 2$

c $\log_4(x) - 2$

d $\log_{0.8}(x) + 4$

e $\log_5(x) - 3$

f $\log_{0.4}(x) + 5$

3 Sketch the graph of each of the following, labelling important features.

a $\log_2(x-1)$

b $\log_{0.5}(x+2)$

c $\log_4(x-2)$

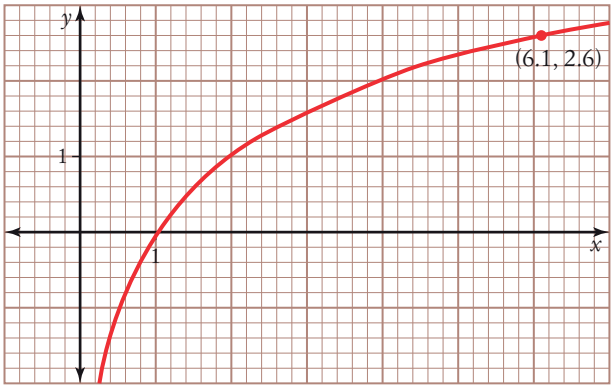
d $\log_{0.8}(x + 4)$

e $\log_{5}(x - 3)$

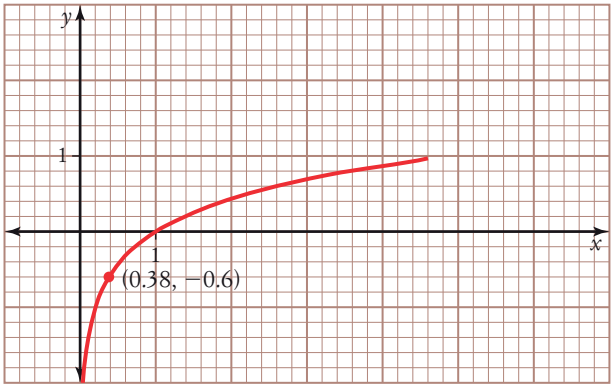
f $\log_{0.4}(x + 5)$

Answers

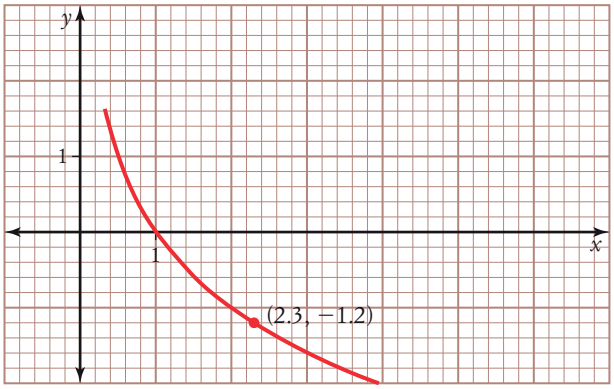
1 a $x \approx 6.1$



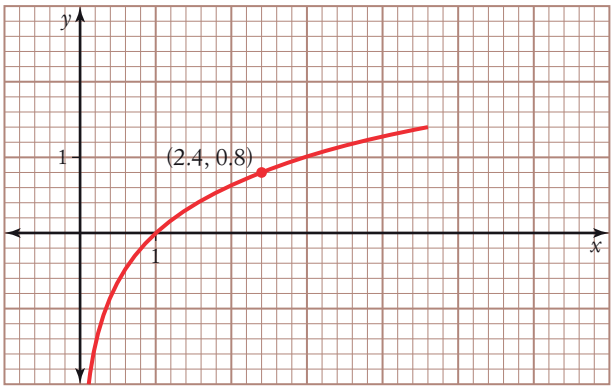
b $x \approx 0.38$



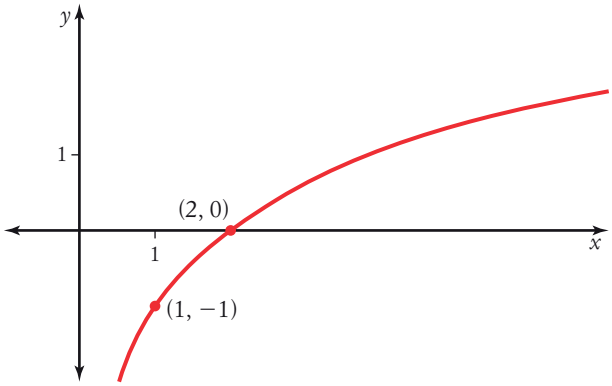
c $x \approx 2.3$



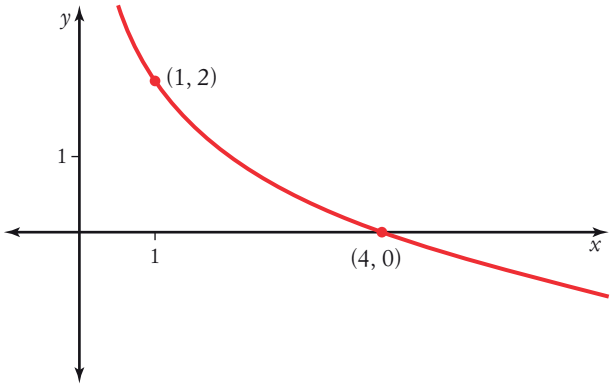
d $x \approx 2.4$



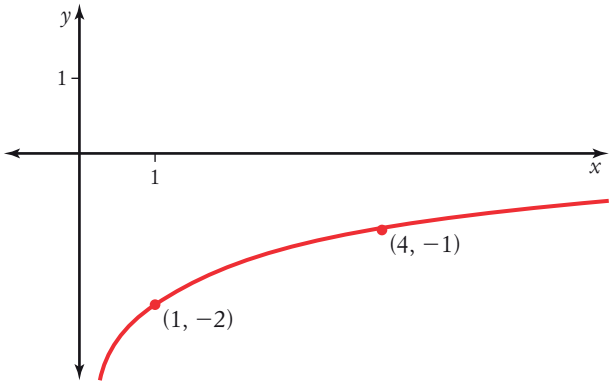
2 a Asymptote: $x = 0$



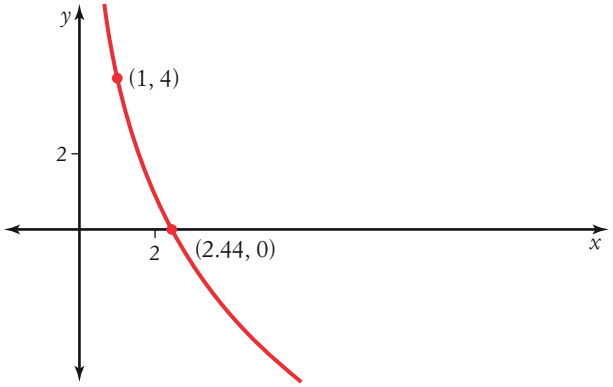
b Asymptote: $x = 0$



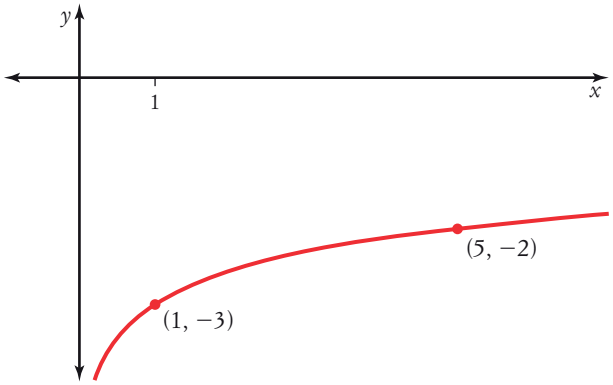
c Asymptote: $x = 0$



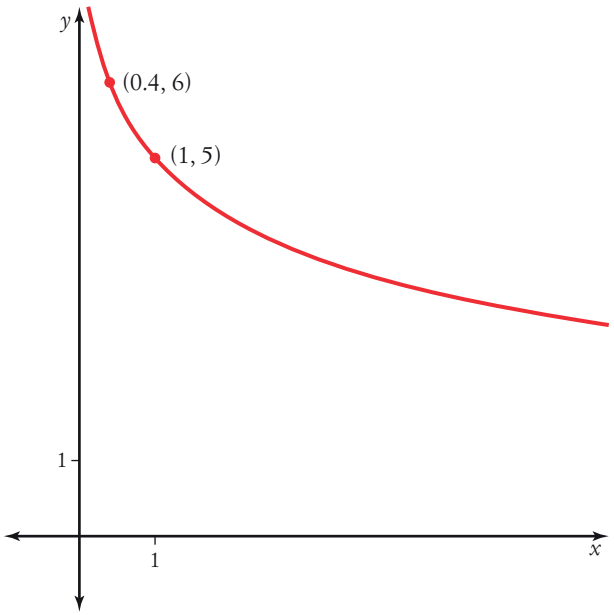
d Asymptote: $x = 0$



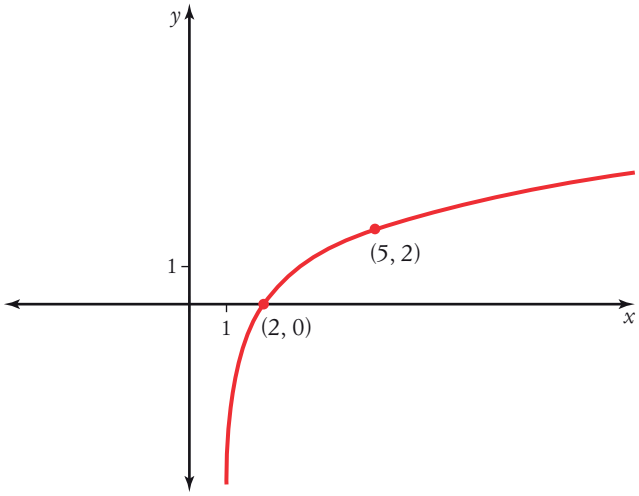
e Asymptote: $x = 0$



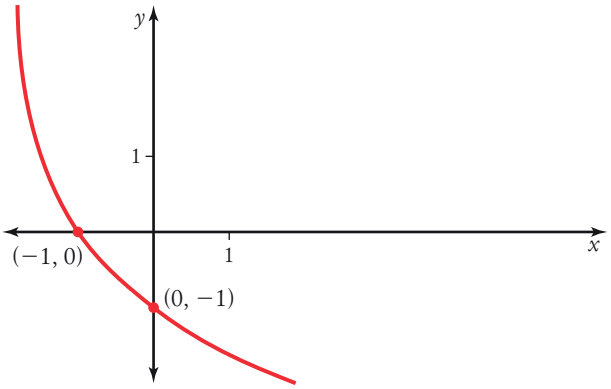
f Asymptote: $x = 0$



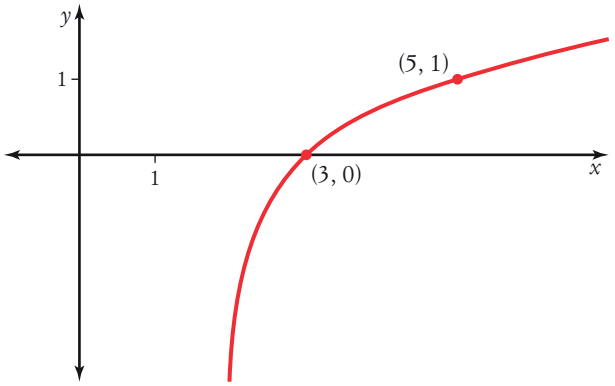
3 **a** Asymptote: $x = 1$



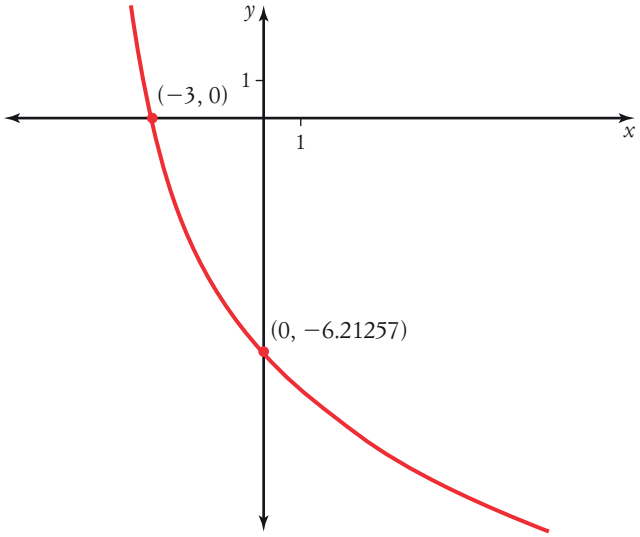
b Asymptote: $x = -2$



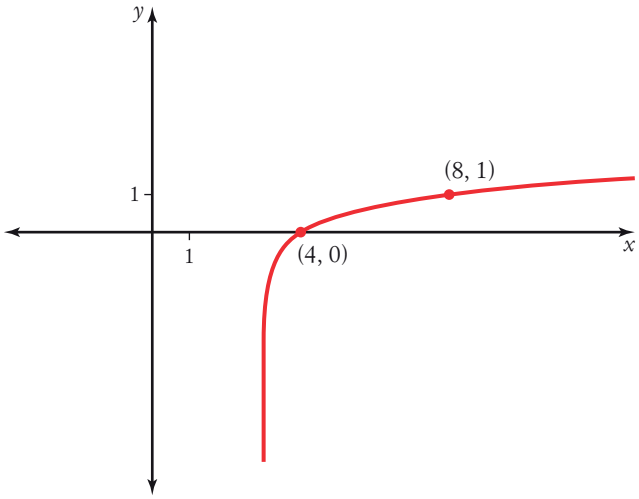
c Asymptote: $x = 2$



d Asymptote: $x = 3$



e Asymptote: $x = 4$



f Asymptote: $x = -5$