

Challenge

$$f(x) = \frac{1}{2} \log_2 (6 - x) - 4$$

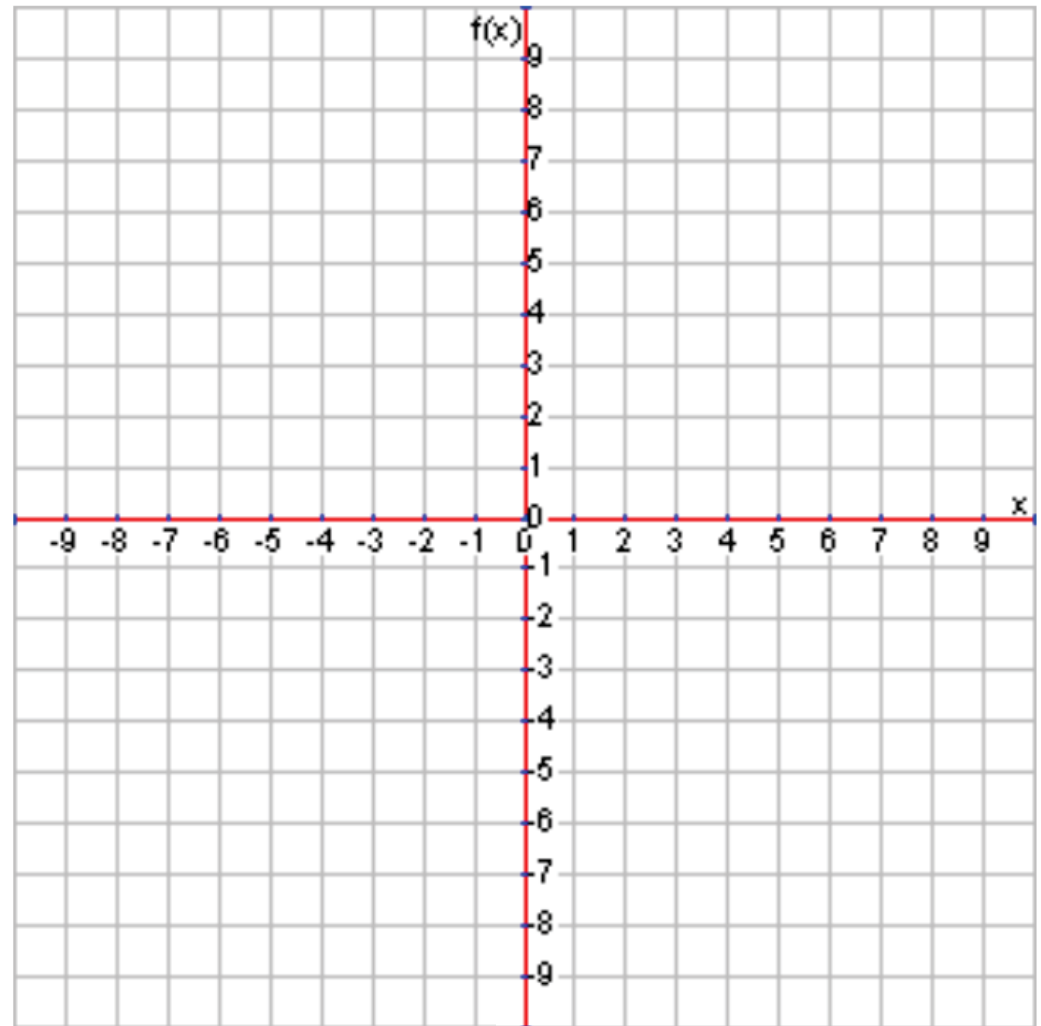
x	$f(x)$

Asymptote:

Domain:

Solve: $f(x) = -4$

$f(-26) =$



Challenge

$$\begin{array}{r} 6-x=1 \\ -6 \quad -6 \\ -x=-5 \\ \hline x=5 \end{array}$$

$$\begin{array}{r} 6-x=2 \\ -6 \quad -6 \\ -x=-4 \\ \hline x=4 \end{array}$$

$$f(x) = \frac{1}{2} \log_2(6-x) - 4$$

x	$f(x)$
4	$\frac{1}{2} \log_2(6-4) - 4 = \frac{1}{2}(1) - 4 = -3.5$
5	$\frac{1}{2} \log_2(6-5) - 4 = \frac{1}{2}(0) - 4 = -4$

Asymptote: $x=6$

Domain: $(-\infty, 6)$ or $x < 6$

Solve: $f(x) = -4$ $x=5$

$$f(-26) = \frac{1}{2} \log_2(6-(-26)) - 4$$

$$\frac{1}{2} \log_2(32) - 4$$

$$2^x = 32$$

$$\frac{1}{2}(5) - 4 = -1.5$$

