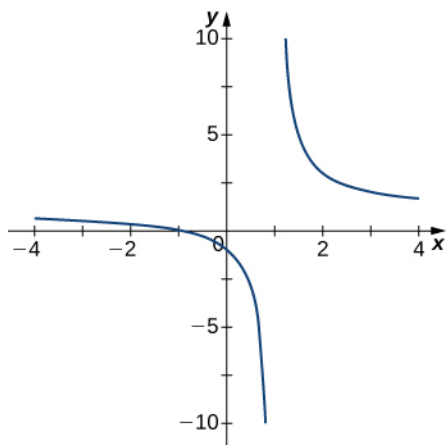


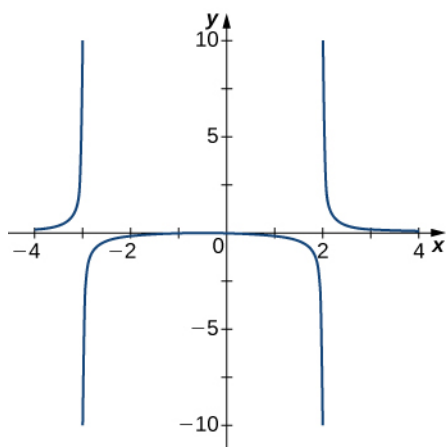
## 4.6 EXERCISES

For the following exercises, examine the graphs. Identify where the vertical asymptotes are located.

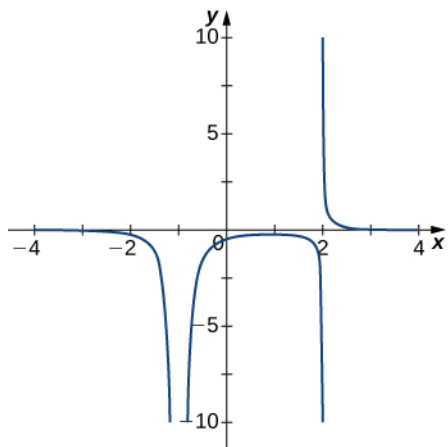
251.



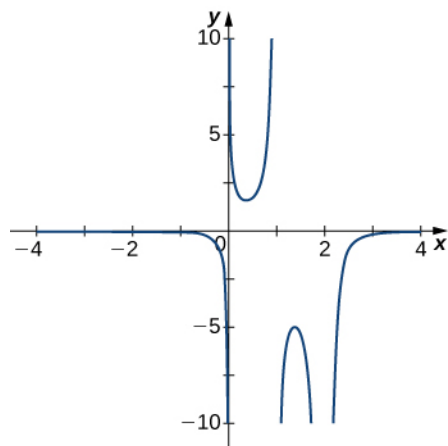
252.



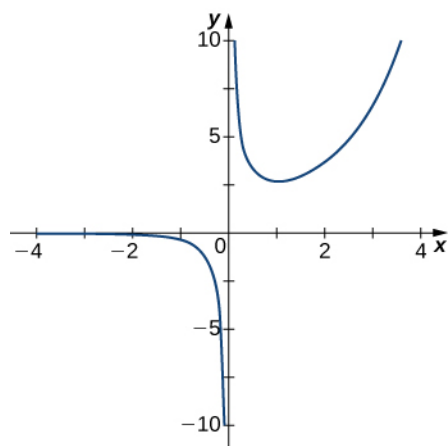
253.



254.



255.



For the following functions  $f(x)$ , determine whether there is an asymptote at  $x = a$ . Justify your answer without graphing on a calculator.

256.  $f(x) = \frac{x+1}{x^2+5x+4}$ ,  $a = -1$

257.  $f(x) = \frac{x}{x-2}$ ,  $a = 2$

258.  $f(x) = (x+2)^{3/2}$ ,  $a = -2$

259.  $f(x) = (x-1)^{-1/3}$ ,  $a = 1$

260.  $f(x) = 1 + x^{-2/5}$ ,  $a = 1$

For the following exercises, evaluate the limit.

261.  $\lim_{x \rightarrow \infty} \frac{1}{3x+6}$