1.14 Infinite Limits and Vertical Asymptotes

Calculus   Name: _____

Identify the vertical asymptotes of each function.

1. $f(x) = \dfrac{x-2}{x^2-4}$

2. $f(x) = \dfrac{x}{x^2-2x}$

3. $f(x) = \cot\left(\dfrac{x}{2}\right)$ on the interval $[-\pi, \pi]$

4. $f(x) = \dfrac{x^3-16x^2+63x}{x^2-7x}$

Evaluate the limit.

5. $\displaystyle\lim_{x\to 2}\dfrac{x+1}{x^2-4x+4}$

6. $\displaystyle\lim_{x\to 1^-}\dfrac{x+3}{x^2-2x+1}$

7. $\displaystyle\lim_{x\to -4^+}\dfrac{x^2}{4x+16}$

8. $\displaystyle\lim_{x\to -4}\dfrac{x+2}{x^2+6x+8}$