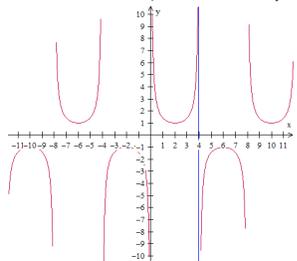Infinite Limits

1. Determine whether f(x) approaches ∞ or -∞ as x approaches 2 from the left and from the right
(similar to p.108 #1-4)

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

2. Determine whether f(x) approaches ∞ or -∞ as x approaches 4 from the left and from the right
(similar to p.108 #5-8)

$$f(x) = \csc\frac{\pi \cdot x}{4}$$

3. Find the vertical asymptotes (if any) of the graph of the function
(similar to p.108 #13-36)

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

4. Find the vertical asymptotes (if any) of the graph of the function
(similar to p.108 #13-36)

$$f(x) = \frac{x^2-9}{x^3-3x^2+3x-9}$$

5. Find the vertical asymptotes (if any) of the graph of the function
(similar to p.108 #13-36)

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

6. Find the vertical asymptotes (if any) of the graph of the function
(similar to p.108 #13-36)

$$f(x) = \csc(\pi \cdot x)$$

7. Find the vertical asymptotes (if any) of the graph of the function
(similar to p.108 #13-36) NEXT TIME

$$f(x) = \frac{\cot x}{x}$$

8. Determine whether the function has a vertical asymptote or a removable discontinuity at x = 2. Graph the function to confirm your answer
(similar to p.108 #37-42)

$$f(x) = \frac{x^2 - 10x + 16}{x - 2}$$

9. Determine whether the function has a vertical asymptote or a removable discontinuity at x = 2. Graph the function to confirm your answer
(similar to p.108 #37-42)

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

10. Find the limit (if it exists).
(similar to p.108 #43-62)

$$\lim_{x \to 2^-} \frac{x^2}{x^2 + 4}$$

11. Find the limit (if it exists).
(similar to p.108 #43-62)

$$\lim_{x \to 0^-} \left(x^3 + \frac{3}{x} \right)$$