Asymptotes

1. Determine all vertical asymptotes of the graph of the function
(similar to p.223 #9-14)

$$f(x)=\frac{x+2}{x^2-7x}$$

2. Determine all vertical asymptotes of the graph of the function
(similar to p.223 #9-14)

$$f(x)=\frac{x^2-12x+32}{x^2-16}$$

3. Use a graphing utility to find the limit
(similar to p.223 #15-20)

$$\lim_{x\to 3^-}\frac{1}{x-3}$$

4. Use a graphing utility to find the limit
(similar to p.223 #15-20)

$$\lim_{x\to 4^+}\frac{2x+1}{x-4}$$

5. Find the limit
(similar to p.224 #21-24)

$$\lim_{x\to\infty}\left(2+\frac{4}{x}\right)$$

6. Find the limit
(similar to p.224 #21-24)

$$\lim_{x\to-\infty}\left(5+\frac{1}{x^2}\right)$$

7. Find the horizontal asymptote of the graph of the function
(similar to p.224 #21-24)

$$f(x)=\frac{8x+2}{4x-3}$$

8. Find the horizontal asymptote of the graph of the function
(similar to p.224 #21-24)

$$f(x)=\frac{3x}{x^2-1}$$

9. Find the horizontal asymptote of the graph of the function
(similar to p.224 #21-24)

$$f(x)=\frac{x^3-5x+2}{x^2+4x-2}$$

10. Find the limit
(similar to p.224 #39-40)

$$\lim_{x\to\infty}\frac{x^2+3}{x^3-1}$$

11. Find the limit
(similar to p.224 #39-40)

$$\lim_{x\to\infty}\frac{x^2+3}{2x^2-5}$$

12. Find the limit
(similar to p.224 #39-40)

$$\lim_{x\to\infty}\frac{7x^3-4x+3}{2x^2-5}$$

13. Sketch the graph of the equation. Use intercepts, extrema, and asymptotes as sketching aids
(similar to p.224 #45-60)

$$y=\frac{x-4}{x+3}$$

14. Sketch the graph of the equation. Use intercepts, extrema, and asymptotes as sketching aids
(similar to p.224 #45-60)

$$y=\frac{x-1}{x^2-7x+12}$$

15. Sketch the graph of the equation. Use intercepts, extrema, and asymptotes as sketching aids
(similar to p.224 #45-60)

$$y=\frac{x^2-4}{x+1}$$