

Solution 4-1

$$\lim_{-\infty} -x^3 - x + 2 = \lim_{-\infty} -x^3 = +\infty$$

$$\lim_{+\infty} -x^4 + x^2 + 1 = \lim_{+\infty} -x^4 = -\infty$$

$$\lim_{+\infty} \frac{x+1}{2x-1} = \lim_{+\infty} \frac{x}{2x} = \frac{1}{2}$$

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

$$\lim_{+\infty} \frac{2x+1}{x^3+x} = \lim_{+\infty} \frac{2x}{x^3} = \lim_{+\infty} \frac{2}{x^2} = 0$$

$$\lim_{-\infty} \sqrt{\frac{2x+1}{x-1}} = \sqrt{2} \quad \text{car} \left(\lim_{-\infty} \frac{2x+1}{x-1} = \lim_{-\infty} \frac{2x}{x} = 2 \right)$$