

$$\lim_{x \rightarrow 2} ((5x - 3)(3x + 5)) = 77 \quad (1)$$

$$\lim_{x \rightarrow 0} \left( \frac{3x - 5}{2 + x} \right) = \frac{-5}{2} \quad (2)$$

$$\lim_{x \rightarrow 0} \left( \frac{x^2 + 4}{(2 + x)(x - 3)} \right) = \frac{-2}{3} \quad (3)$$

$$\lim_{x \rightarrow 2} \left( \frac{3x^2 + 5}{5x^2 - 3} \right) = 1 \quad (4)$$

$$\lim_{x \rightarrow 0} \left( \frac{3x^3 + 5x^4 + 7x^5}{4x^3 + 2x^5 + x^7} \right) = \frac{3}{4} \quad (5)$$

$$\lim_{x \rightarrow 1} \left( \frac{x^2 - 4x + 3}{x^2 + 2x - 3} \right) = \frac{-1}{2} \quad (6)$$

$$\lim_{x \rightarrow 3} \left( \frac{x^3 - 27}{x - 3} \right) = 27 \quad (7)$$

$$\lim_{x \rightarrow 1} \left( \frac{x^3 - 3x + 2}{x^3 - x^2 - x + 1} \right) = \frac{3}{2} \quad (8)$$

$$\lim_{x \rightarrow 0} \left( \frac{\frac{1}{\sqrt{1+x}} - 1}{x} \right) = \frac{-1}{2} \quad (9)$$

$$\lim_{x \rightarrow 4} \left( \frac{\sqrt{x} - 2}{x - 4} \right) = \frac{1}{4} \quad (10)$$

$$\lim_{x \rightarrow 81} \left( \frac{x - 81}{\sqrt{x} - 9} \right) = 18 \quad (11)$$

$$\lim_{h \rightarrow 0} \left( \frac{\sqrt{x+h} - \sqrt{x}}{h} \right) = \frac{1}{2\sqrt{x}} \quad (12)$$

$$\lim_{x \rightarrow 0} \left( \frac{\frac{1}{(16+x)^2} - \frac{1}{36}}{x} \right) = \text{undefined} \quad (13)$$

$$\lim_{x \rightarrow 3} \left( \frac{x^2 - 9}{x - 3} \right) = 6 \quad (14)$$

$$\lim_{x \rightarrow 2} \left( \frac{2x^2 - 5x + 2}{x - 2} \right) = 3 \quad (15)$$

$$\lim_{h \rightarrow 0} \left( \frac{(x+h)^h - x^h}{h} \right) = 0 \quad (16)$$

$$\lim_{x \rightarrow 8} \left( \frac{x - 8}{x^{(1/3)} - 2} \right) = 3 \cdot 8^{(2/3)} \quad (17)$$

$$\lim_{x \rightarrow \infty} \left( \frac{3x^2 - 5x + 4}{x^2 + 2} \right) = 3 \quad (18)$$

$$\lim_{x \rightarrow \infty} \left( \frac{x^3 + 4x - 10}{5x^2 - 12x^3} \right) = \frac{-1}{12} \quad (19)$$

$$\lim_{x \rightarrow \infty} \left( \frac{8x^3 - 5x^2 - 3x}{4 - 7x + x^2 - 3x^3} \right) = \frac{-8}{3} \quad (20)$$

$$\lim_{x \rightarrow \infty} \left( \frac{2x + \frac{3}{x}}{3x - \frac{2}{x}} \right) = \frac{2}{3} \quad (21)$$

$$\lim_{x \rightarrow \infty} \left( \frac{x^2 + 1}{\sqrt{3 + 5x^4}} \right) = \frac{1}{5} \sqrt{5} \quad (22)$$

$$\lim_{x \rightarrow \infty} \left( \frac{\sqrt{2x^2 - 5}}{3x + 4} \right) = \frac{1}{3} \sqrt{2} \quad (23)$$

$$\lim_{x \rightarrow \infty} \left( \frac{2x + 3\sqrt{x}}{x + x^{(1/3)}} \right) = 2 \quad (24)$$

$$\lim_{x \rightarrow \infty} \left( \frac{(2x - 3)^{20} (3x + 2)^{30}}{(6x + 1)^{50}} \right) = \frac{1}{3743906242624487424} \quad (25)$$

$$\lim_{x \rightarrow \infty} \left( \frac{(3x + 5)^2 (x - 5)^2}{x^4 + x^3 + x^2} \right) = 9 \quad (26)$$

$$\lim_{x \rightarrow \infty} \left( \frac{x^4 - 1}{(x^3 - 4x + 3)(x^2 + 1)} \right) = 0 \quad (27)$$

$$\lim_{x \rightarrow \infty} \left( \frac{x^3 - 5x + 6}{x^2 - 2x + 3} \right) = \infty \quad (28)$$

$$\lim_{x \rightarrow 1} \left( \frac{x - 1}{x^3 - 1} \right)^{(x+1)} = \frac{1}{9} \quad (29)$$

$$\lim_{x \rightarrow \infty} \left( \frac{3x^2 - x}{x^2 + 1} \right)^{\left( \frac{2 - 3x^2}{x^2 - 1} \right)} = \frac{1}{27} \quad (30)$$

$$\lim_{x \rightarrow \infty} \left( \frac{x + 1}{2x + 1} \right)^{(x^2)} = 0 \quad (31)$$

$$\lim_{x \rightarrow \infty} \left( \frac{x - 1}{x + 1} \right)^{\left( \frac{1}{x} \right)} = 1 \quad (32)$$