

$$\lim_{x \rightarrow 3} (5x^2 - 3x + 4) = 40 \quad (1)$$

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

$$\lim_{x \rightarrow 3} \left( \frac{x^3 - 3x^2 + 2x - 6}{x - 3} \right) = 11 \quad (3)$$

$$\lim_{x \rightarrow 2} \left( \frac{x^4 - 6x - 4}{x - 2} \right) = 26 \quad (4)$$

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

$$\lim_{x \rightarrow \frac{1}{2}} \left( \frac{2x^2 + 7x - 4}{1 - 2x} \right) = \frac{-9}{2} \quad (6)$$

$$\lim_{x \rightarrow -1} \left( \frac{x - 1}{|x - 1|} \right) = -1 \quad (7)$$

$$\lim_{x \rightarrow 1} \left( \frac{|x - 1|}{x - 1} \right) = \text{undefined} \quad (8)$$

$$\lim_{x \rightarrow a} \left( \frac{x^2 - (a + 1)x + a}{x^3 - a^3} \right) = \frac{1}{3} \frac{-1 + a}{a^2} \quad (9)$$

$$\lim_{x \rightarrow a} \left( \frac{\sqrt{3x - a} - \sqrt{x + a}}{x - a} \right) = \frac{1}{2} \frac{\sqrt{2}}{\sqrt{a}} \quad (10)$$

$$\lim_{x \rightarrow 4} \left( \frac{\sqrt{2x + 1} - 3}{\sqrt{x - 2} - \sqrt{2}} \right) = \frac{2}{3} \sqrt{2} \quad (11)$$

$$\lim_{x \rightarrow \infty} \left( \frac{\sqrt{x^2 + 1}}{x + 1} \right) = 1 \quad (12)$$

$$\lim_{x \rightarrow \infty} \left( \frac{\sqrt{x^2 - 3}}{(x^3 + 1)^{(1/3)}} \right) = 1 \quad (13)$$

$$\lim_{x \rightarrow \infty} \left( \frac{(x^2 + 1)^{(1/3)}}{x + 1} \right) = 0 \quad (14)$$

$$\lim_{x \rightarrow \infty} \left( \frac{\sqrt{x + \sqrt{x + \sqrt{x}}}}{\sqrt{x + 1}} \right) = 1 \quad (15)$$

$$\lim_{x \rightarrow 1} \left( \frac{x^7 - 1}{x - 1} \right) = 7 \quad (16)$$

$$\lim_{x \rightarrow \frac{1}{2}} (|2x - 1| - 5) = -5 \quad (17)$$

$$\lim_{x \rightarrow 0} \left( \frac{\tan(x)}{x} \right) = 1 \quad (18)$$

$$\lim_{x \rightarrow 0} \left( \frac{1 - \sqrt{\cos(x)}}{x^2} \right) = \frac{1}{4} \quad (19)$$

$$\lim_{x \rightarrow 0} \left( \frac{\sin(3x)}{x} \right) = 3 \quad (20)$$

$$\lim_{x \rightarrow 0} \left( \frac{\sin(5x)}{\sin(2x)} \right) = \frac{5}{2} \quad (21)$$

$$\lim_{x \rightarrow \frac{1}{4}\pi} \left( \frac{\sin(x) - \cos(x)}{1 - \tan(x)} \right) = -\frac{1}{2} \sqrt{2} \quad (22)$$

$$\lim_{x \rightarrow 0} \left( \frac{\sin(5x) - \sin(3x)}{\sin(x)} \right) = 2 \quad (23)$$

$$\lim_{x \rightarrow \frac{1}{4}\pi} \left( \frac{\sqrt{1 + \sin(x)} - \sqrt{1 - \sin(x)}}{x} \right) = 0.9744953588 \quad (24)$$

$$\lim_{x \rightarrow 0} \left( \frac{x - \sin(x)}{x + \sin(x)} \right) = 0 \quad (25)$$

$$\lim_{x \rightarrow 0} \left( \frac{\sin(x)}{1 - e^x} \right) = -1 \quad (26)$$

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

$$\lim_{x \rightarrow 0} \left( \frac{1 - \cos(x)^2}{x} \right) = 0 \quad (28)$$

$$\lim_{x \rightarrow 0} \left( \frac{\sin(x)^2 + 1}{\sqrt{\cos(x)^2 + 3}} \right) = \frac{1}{2} \quad (29)$$

$$\lim_{x \rightarrow 0} \left( \frac{1}{4} \frac{1 - \cos(2x)}{x} \right) = 0 \quad (30)$$

$$\lim_{x \rightarrow 0} \left( \frac{\sin(4x)}{\cos(3x) - 1} \right) = \text{undefined} \quad (31)$$

$$\lim_{x \rightarrow 0} \left( \frac{1 - \cos(x)}{1 + \sin(x)} \right) = 0 \quad (32)$$

$$\lim_{x \rightarrow 0} (\tan(x) - \cot(x)) = \text{undefined} \quad (33)$$