

$$1 \lim_{x \rightarrow 2} \left(\frac{x^2 - 6x + 8}{x^2 - 5x + 6} \right) = 2 \quad (1)$$

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

$$3 \lim_{x \rightarrow 3} \left(\frac{x^2 - 27}{x - 3} \right) = \text{undefined} \quad (3)$$

$$4 \lim_{x \rightarrow 2} \left(\frac{4 - x^2}{3 - \sqrt{x^2 + 5}} \right) = 6 \quad (4)$$

$$5 \lim_{x \rightarrow 7} \left(\frac{x^2 - 49}{2 - \sqrt{x - 3}} \right) = -56 \quad (4)$$

$$6 \lim_{x \rightarrow 0} \left(\frac{\frac{1}{\sqrt{1+x}} - 1}{x} \right) = \frac{-1}{2} \quad (5)$$

$$7 \lim_{x \rightarrow 0} \left(\frac{3x^3 + 5x^4 + 7x^5}{4x^3 + 2x^4 + x^5} \right) = \frac{3}{4} \quad (6)$$

$$8 \lim_{x \rightarrow 0} \left(\frac{(x+h)^3 - x^3}{h} \right) = h^2 \quad (7)$$

$$9 \lim_{x \rightarrow 1} \left(\frac{x^{(1/3)} - 1}{x^{(1/4)} - 1} \right) = \frac{4}{3} \quad (8)$$

$$10 \lim_{x \rightarrow 0} \left(\frac{\sqrt{1+x} - 1}{(1+x)^{(1/3)} - 1} \right) = \frac{3}{2} \quad (9)$$

$$11 \lim_{x \rightarrow 8} \left(\frac{\sqrt{7+x^{(1/3)}} - 3}{x - 8} \right) = \frac{1}{72} \quad (10)$$

$$12 \lim_{x \rightarrow 1} \left(\frac{\sqrt{x} - x^{(1/3)}}{x^{(1/4)} - 1} \right) = \frac{2}{3} \quad (11)$$

$$13 \lim_{x \rightarrow 0} \left(\frac{\sqrt{25+x} - 5}{\sqrt{1+x} - 1} \right) = \frac{1}{5} \quad (12)$$

$$14 \lim_{x \rightarrow 1} \left(\frac{1 - x^{(1/3)}}{1 - x^{(1/5)}} \right) = \frac{5}{3} \quad (13)$$

$$15 \lim_{x \rightarrow 0} \left(\frac{(1+x)^{(1/3)} - 1}{x} \right) = \frac{1}{3} \quad (14)$$

$$16 \lim_{x \rightarrow a} \left(\frac{\sqrt{3x-a} - \sqrt{x+a}}{x-a} \right) = \frac{1}{2} \frac{\sqrt{2}}{\sqrt{a}} \quad (15)$$

$$17 \lim_{x \rightarrow 3} \left(\frac{2x^2 - 18}{x^3 - 2x^2 - 9} \right) = \frac{4}{5} \quad (16)$$

$$18 \lim_{x \rightarrow -3} \left(\frac{x^2 - x - 12}{x^2 + 4x + 3} \right) = \frac{7}{2} \quad (17)$$

$$19 \lim_{x \rightarrow 14} \left(\frac{(x+2)^{(1/4)} - 2}{\sqrt{x+2} - 4} \right) = 0.2500000000 \quad (18)$$

$$(19)$$

$$20 \lim_{x \rightarrow 64} \left(\frac{x^{(1/6)} - 2}{\sqrt{x} - 8} \right) = \frac{5}{48} 64^{(1/6)} - \frac{1}{8} \quad (19)$$

$$21 \lim_{x \rightarrow 1} \left(\frac{x^3 + x^2 - x - 1}{x^2 + x - 2} \right) = \frac{4}{3} \quad (20)$$

$$22 \lim_{x \rightarrow 0} \left(\frac{\sqrt{1 + x + x^2} - 1}{x} \right) = \frac{1}{2} \quad (21)$$

$$23 \lim_{h \rightarrow 2} \left(\sqrt{\frac{h^3 - 8}{h^2 - 4}} \right) = \sqrt{3} \quad (22)$$

$$24 \lim_{y \rightarrow 2} \left(\sqrt{\frac{y^2 - 4}{y^2 - 3y + 2}} \right) = 2 \quad (23)$$

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