Limit03 Answers for No.9012

$$Ans1 = \begin{bmatrix} .1 = \left(\lim_{x\to 3} x^3 - 2x^2 - 2x + 2 = 5\right) & .2 = \left(\lim_{x\to 2} (3x^2-1)(x^2-2) = 22\right) & .3 = \left(\lim_{x\to 4} \frac{x+2}{3x^2+x-3} = \frac{6}{49}\right) \\ .4 = \left(\lim_{x\to 49} \frac{49-x}{\sqrt{x}-7} = -14\right) & .5 = \left(\lim_{x\to 17} \frac{\sqrt{x-1}-4}{17-x} = \frac{-1}{8}\right) & .6 = \left(\lim_{x\to 3} \sqrt{3-x} = undefined\right) \\ .7 = \left(\lim_{x\to 1} |x-2| = 1\right) & .8 = \left(\lim_{x\to 3} \frac{3-x}{|-3+x|} = undefined\right) & .9 = \left(\lim_{x\to 2-} \frac{|x^2+2x-8|}{x-2} = -6\right) \\ .10 = \left(\lim_{x\to 0+} \frac{2}{x} - \frac{2}{|x|} = 0\right) & .11 = \left(\lim_{x\to (2/5)} \frac{15x^2-x-2}{|5x-2|} = undefined\right) & Math@MUT \end{bmatrix}, \begin{bmatrix} \underline{:(} \\ :) \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \underline{:)} \\ :'(\end{bmatrix}$$

$$Ans2 = \begin{bmatrix} .1 = [\lim_{x\to 0-} f(x) = -2,\ \lim_{x\to 0+} f(x) = 2,\ \lim_{x\to 0} f(x) = undefined] \\ .2 = [\lim_{x\to 0-} g(x) = 5,\ \lim_{x\to 0+} g(x) = 5,\ \lim_{x\to 0} g(x) = 5] \\ .3 = \begin{bmatrix} \lim_{x\to 0-} f(x)+g(x) = 3 & \lim_{x\to 0+} f(x)-g(x) = -3 & \lim_{x\to 0+} f(x)\,g(x) = 10 \\ \lim_{x\to 0-} \frac{f(x)}{g(x)} = \frac{-2}{5} & \lim_{x\to 0} g(x)-f(x) = undefined & Math@MUT \end{bmatrix} \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = \left(\lim_{x\to 4-} f(x) = 4\right) & .2 = \left(\lim_{x\to 4+} f(x) = 5\right) & .3 = \left(\lim_{x\to 4} f(x) = undefined\right) \\ .4 = \left(\lim_{x\to (-4.3)-} f(x) = -4.\right) & .5 = \left(\lim_{x\to (-4.3)+} f(x) = -4.\right) & .6 = \left(\lim_{x\to (-4.3)} f(x) = -4.\right) \end{bmatrix}$$

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Limit03 Answers for No.9016

$$Ans1 = \begin{bmatrix} .1 = (\lim_{x\to 2} 5x^2 = 20) & .2 = (\lim_{x\to 1} (2x^3 - 4x^2 + 2x)(5x-2) = 0) & .3 = \left(\lim_{x\to 4} \frac{4x^2-2x-3}{3x^2-3} = \frac{53}{45}\right) \\ .4 = \left(\lim_{x\to 36} \frac{x-36}{\sqrt{x}-6} = 12\right) & .5 = \left(\lim_{x\to 27} \frac{x-27}{\sqrt{x-2}-5} = 10\right) & .6 = (\lim_{x\to 1} \sqrt{x-2} = undefined) \\ .7 = (\lim_{x\to(-3)} |x+2| = 1) & .8 = \left(\lim_{x\to 2} \frac{x-2}{|x-2|} = undefined\right) & .9 = \left(\lim_{x\to 2+} \frac{x-2}{|x^2-3x+2|} = 1\right) \\ .10 = \left(\lim_{x\to 0+} \frac{1}{x} + \frac{1}{|x|} = \infty\right) & .11 = \left(\lim_{x\to(4/5)} \frac{|5x-4|}{20x^2-31x+12} = undefined\right) & Math@MUT \end{bmatrix}, \begin{bmatrix} \frac{:(}{:)} \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \frac{:)}{:'(} \end{bmatrix}$$

$$Ans2 = \begin{bmatrix} .1 = [\lim_{x\to 0-} f(x) = -1, \lim_{x\to 0+} f(x) = 1, \lim_{x\to 0} f(x) = undefined] \\ .2 = [\lim_{x\to 0-} g(x) = -2, \lim_{x\to 0+} g(x) = -2, \lim_{x\to 0} g(x) = -2] \\ .3 = \begin{bmatrix} \lim_{x\to 0+} f(x) + g(x) = -1 & \lim_{x\to 0+} f(x) - g(x) = 3 & \lim_{x\to 0-} f(x)\,g(x) = 2 \\ \lim_{x\to 0-} \frac{f(x)}{g(x)} = \frac{1}{2} & \lim_{x\to 0} f(x)\,g(x) = undefined & Math@MUT \end{bmatrix} \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (\lim_{x\to 4-} f(x) = 3) & .2 = (\lim_{x\to 4+} f(x) = 4) & .3 = (\lim_{x\to 4} f(x) = undefined) \\ .4 = (\lim_{x\to(-4.2)-} f(x) = -5.) & .5 = (\lim_{x\to(-4.2)+} f(x) = -5.) & .6 = (\lim_{x\to(-4.2)} f(x) = -5.) \end{bmatrix}$$

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Limit03 Answers for No.9018

$$Ans1 = \begin{bmatrix} .1 = (\lim_{x \to 3} 2x^2+4x+1 = 31) & .2 = (\lim_{x \to 2} (3x^2-4x+4)(5x^2+x-2) = 160) & .3 = \left(\lim_{x \to 2} \frac{3x-3}{4x^2-2x-1} = \frac{3}{11}\right) \\ .4 = \left(\lim_{x \to 64} \frac{8-\sqrt{x}}{64-x} = \frac{1}{16}\right) & .5 = \left(\lim_{x \to 11} \frac{\sqrt{x-2}-3}{11-x} = \frac{-1}{6}\right) & .6 = (\lim_{x \to 1} \sqrt{1-x} = undefined) \\ .7 = (\lim_{x \to (-2)} |-3+x| = 5) & .8 = \left(\lim_{x \to 2} \frac{|x-2|}{2-x} = undefined\right) & .9 = \left(\lim_{x \to 4+} \frac{x-4}{|x^2-2x-8|} = \frac{1}{6}\right) \\ .10 = \left(\lim_{x \to 0-} \frac{2}{x}+\frac{2}{|x|} = 0\right) & .11 = \left(\lim_{x \to (2/5)} \frac{15x^2+14x-8}{|5x-2|} = undefined\right) & Math@MUT \end{bmatrix}, \begin{bmatrix} \frac{:(}{:)} \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \frac{:)}{:'(} \end{bmatrix}$$

$$Ans2 = \begin{bmatrix} .1 = [\lim_{x \to 0-} f(x) = -4, \lim_{x \to 0+} f(x) = 4, \lim_{x \to 0} f(x) = undefined] \\ .2 = [\lim_{x \to 0-} g(x) = -3, \lim_{x \to 0+} g(x) = -3, \lim_{x \to 0} g(x) = -3] \\ .3 = \begin{bmatrix} \lim_{x \to 0+} f(x)+g(x) = 1 & \lim_{x \to 0+} f(x)-g(x) = 7 & \lim_{x \to 0-} f(x)\,g(x) = 12 \\ \lim_{x \to 0-} \frac{f(x)}{g(x)} = \frac{4}{3} & \lim_{x \to 0} f(x)+g(x) = undefined & Math@MUT \end{bmatrix} \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (\lim_{x \to 3-} f(x) = 2) & .2 = (\lim_{x \to 3+} f(x) = 3) & .3 = (\lim_{x \to 3} f(x) = undefined) \\ .4 = (\lim_{x \to (-3.6)-} f(x) = -4.) & .5 = (\lim_{x \to (-3.6)+} f(x) = -4.) & .6 = (\lim_{x \to (-3.6)} f(x) = -4.) \end{bmatrix}$$

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Limit03 Answers for No.9036

$$Ans1 = \left[\begin{matrix} .1 = \left(\lim_{x\to 2} 3x^2 - 2 = 10\right) & .2 = \left(\lim_{x\to 1} (3x^3 - 3x^2 - 1)(4x+2) = -6\right) & .3 = \left(\lim_{x\to 4} \frac{2x-1}{5x^3 + x^2 - 2x} = \frac{7}{328}\right) \\ .4 = \left(\lim_{x\to 49} \frac{49 - x}{\sqrt{x} - 7} = -14\right) & .5 = \left(\lim_{x\to 3} \frac{\sqrt{x-2} - 1}{-3 + x} = \frac{1}{2}\right) & .6 = \left(\lim_{x\to 1} \sqrt{3 - x} = \sqrt{2}\right) \\ .7 = \left(\lim_{x\to (-1)} |x - 1| = 2\right) & .8 = \left(\lim_{x\to 2} \frac{|x-2|}{x-2} = \mathit{undefined}\right) & .9 = \left(\lim_{x\to 2+} \frac{|x^2 - 4|}{x-2} = 4\right) \\ .10 = \left(\lim_{x\to 0-} \frac{3}{x} + \frac{3}{|x|} = 0\right) & .11 = \left(\lim_{x\to (1/3)} \frac{3x^2 + 5x - 2}{|3x - 1|} = \mathit{undefined}\right) & \mathit{Math@MUT} \end{matrix}\right], \left[\begin{matrix} \frac{:(}{:)} \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \frac{:)}{:'(} \end{matrix}\right]$$

$$Ans2 = \left[\begin{matrix} .1 = \left[\lim_{x\to 0-} f(x) = -2,\ \lim_{x\to 0+} f(x) = 2,\ \lim_{x\to 0} f(x) = \mathit{undefined}\right] \\ .2 = \left[\lim_{x\to 0-} g(x) = -5,\ \lim_{x\to 0+} g(x) = -5,\ \lim_{x\to 0} g(x) = -5\right] \\ .3 = \left[\begin{matrix} \lim_{x\to 0+} f(x) + g(x) = -3 & \lim_{x\to 0+} f(x) - g(x) = 7 & \lim_{x\to 0-} f(x)\,g(x) = 10 \\ \lim_{x\to 0-} \frac{f(x)}{g(x)} = \frac{2}{5} & \lim_{x\to 0} f(x) + g(x) = \mathit{undefined} & \mathit{Math@MUT} \end{matrix}\right] \end{matrix}\right]$$

$$Ans3 = \left[\begin{matrix} .1 = \left(\lim_{x\to 2-} f(x) = 1\right) & .2 = \left(\lim_{x\to 2+} f(x) = 2\right) & .3 = \left(\lim_{x\to 2} f(x) = \mathit{undefined}\right) \\ .4 = \left(\lim_{x\to (-5.7)-} f(x) = -6.\right) & .5 = \left(\lim_{x\to (-5.7)+} f(x) = -6.\right) & .6 = \left(\lim_{x\to (-5.7)} f(x) = -6.\right) \end{matrix}\right]$$

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Limit03 Answers for No.9037

$$Ans1 = \begin{bmatrix} .1 = (\lim_{x \to 2} 5x^3 - x^2 + 4x - 4 = 40) & .2 = (\lim_{x \to 3} (x^3 + 3x^2 - 3x)(4x - 3) = 405) & .3 = \left(\lim_{x \to 3} \frac{2x-2}{3x-3} = \frac{2}{3}\right) \\ .4 = \left(\lim_{x \to 16} \frac{16 - x}{4 - \sqrt{x}} = 8\right) & .5 = \left(\lim_{x \to 5} \frac{x-5}{\sqrt{x-4} - 1} = 2\right) & .6 = (\lim_{x \to 1} \sqrt{x-1} = undefined) \\ .7 = (\lim_{x \to (-3)} |x - 1| = 4) & .8 = \left(\lim_{x \to 2} \frac{2 - x}{|x - 2|} = undefined\right) & .9 = \left(\lim_{x \to 4+} \frac{x - 4}{|x^2 - 9x + 20|} = 1\right) \\ .10 = \left(\lim_{x \to 0-} \frac{4}{x} + \frac{4}{|x|} = 0\right) & .11 = \left(\lim_{x \to (1/2)} \frac{6x^2 + 5x - 4}{|2x - 1|} = undefined\right) & Math@MUT \end{bmatrix}, \begin{bmatrix} \underline{:(} \\ :) \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \underline{:)} \\ :'(\end{bmatrix}$$

$$Ans2 = \begin{bmatrix} .1 = [\lim_{x \to 0-} f(x) = -4, \lim_{x \to 0+} f(x) = -4, \lim_{x \to 0} f(x) = -4] \\ .2 = [\lim_{x \to 0-} g(x) = -1, \lim_{x \to 0+} g(x) = 1, \lim_{x \to 0} g(x) = undefined] \\ .3 = \begin{bmatrix} \lim_{x \to 0-} f(x) + g(x) = -5 & \lim_{x \to 0+} f(x) - g(x) = -5 & \lim_{x \to 0+} f(x)\, g(x) = -4 \\ \lim_{x \to 0-} \frac{f(x)}{g(x)} = 4 & \lim_{x \to 0} \frac{g(x)}{f(x)} = undefined & Math@MUT \end{bmatrix} \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (\lim_{x \to 4-} f(x) = 3) & .2 = (\lim_{x \to 4+} f(x) = 4) & .3 = (\lim_{x \to 4} f(x) = undefined) \\ .4 = (\lim_{x \to (-5.6)-} f(x) = -6.) & .5 = (\lim_{x \to (-5.6)+} f(x) = -6.) & .6 = (\lim_{x \to (-5.6)} f(x) = -6.) \end{bmatrix}$$

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Limit03 Answers for No.9138

$$Ans1 = \begin{bmatrix} .1 = (\lim_{x \to 2} 5x^2 - 2x + 1 = 17) & .2 = (\lim_{x \to 2} (3x^2 + 4x - 4)(5x - 2) = 128) & .3 = \left(\lim_{x \to 4} \frac{x^3 - 4x^2 - 2x}{x + 2} = \frac{-4}{3}\right) \\ .4 = \left(\lim_{x \to 9} \frac{9 - x}{\sqrt{x} - 3} = -6\right) & .5 = \left(\lim_{x \to 10} \frac{x - 10}{\sqrt{x - 1} - 3} = 6\right) & .6 = (\lim_{x \to 2} \sqrt{x - 2} = undefined) \\ .7 = (\lim_{x \to 2} |x + 1| = 3) & .8 = \left(\lim_{x \to 3} \frac{-3 + x}{|-3 + x|} = undefined\right) & .9 = \left(\lim_{x \to 4-} \frac{x - 4}{|x^2 + x - 20|} = \frac{-1}{9}\right) \\ .10 = \left(\lim_{x \to 0+} \frac{4}{|x|} - \frac{4}{x} = 0\right) & .11 = \left(\lim_{x \to (4/3)} \frac{|3x - 4|}{15x^2 - 26x + 8} = undefined\right) & Math@MUT \end{bmatrix}, \begin{bmatrix} \underline{:(} \\ :) \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \underline{:)} \\ :'(\end{bmatrix}$$

$$Ans2 = \begin{bmatrix} .1 = [\lim_{x \to 0-} f(x) = -1, \lim_{x \to 0+} f(x) = -1, \lim_{x \to 0} f(x) = -1] \\ .2 = [\lim_{x \to 0-} g(x) = -4, \lim_{x \to 0+} g(x) = 4, \lim_{x \to 0} g(x) = undefined] \\ .3 = \begin{bmatrix} \lim_{x \to 0-} f(x) + g(x) = -5 & \lim_{x \to 0+} f(x) - g(x) = -5 & \lim_{x \to 0-} f(x)\, g(x) = 4 \\ \lim_{x \to 0+} \frac{f(x)}{g(x)} = \frac{-1}{4} & \lim_{x \to 0} f(x) + g(x) = undefined & Math@MUT \end{bmatrix} \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (\lim_{x \to 2-} f(x) = 2) & .2 = (\lim_{x \to 2+} f(x) = 3) & .3 = (\lim_{x \to 2} f(x) = undefined) \\ .4 = (\lim_{x \to (-2.9)-} f(x) = -2.) & .5 = (\lim_{x \to (-2.9)+} f(x) = -2.) & .6 = (\lim_{x \to (-2.9)} f(x) = -2.) \end{bmatrix}$$

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Limit03 Answers for No.9602

$$Ans1 = \begin{bmatrix} .1 = (\lim_{x\to 3} 5x^3+1 = 136) & .2 = (\lim_{x\to 1} (4x-1)(2x^2-2x) = 0) & .3 = \left(\lim_{x\to 4} \frac{x^2-2x}{3x-1} = \frac{8}{11}\right) \\ .4 = \left(\lim_{x\to 4} \frac{4-x}{2-\sqrt{x}} = 4\right) & .5 = \left(\lim_{x\to 19} \frac{\sqrt{-3+x}-4}{19-x} = \frac{-1}{8}\right) & .6 = (\lim_{x\to 1} \sqrt{x-2} = undefined) \\ .7 = (\lim_{x\to(-2)} |x+3| = 1) & .8 = \left(\lim_{x\to 1} \frac{x-1}{|x-1|} = undefined\right) & .9 = \left(\lim_{x\to 5-} \frac{|x^2-2x-15|}{x-5} = -8\right) \\ .10 = \left(\lim_{x\to 0-} \frac{4}{x} - \frac{4}{|x|} = -\infty\right) & .11 = \left(\lim_{x\to(5/6)} \frac{18x^2-3x-10}{|6x-5|} = undefined\right) & Math@MUT \end{bmatrix}, \begin{bmatrix} \frac{:(}{:)} \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \frac{:)}{:'(} \end{bmatrix}$$

$$Ans2 = \begin{bmatrix} .1 = [\lim_{x\to 0-} f(x) = 5, \lim_{x\to 0+} f(x) = 5, \lim_{x\to 0} f(x) = 5] \\ .2 = [\lim_{x\to 0-} g(x) = -1, \lim_{x\to 0+} g(x) = 1, \lim_{x\to 0} g(x) = undefined] \\ .3 = \begin{bmatrix} \lim_{x\to 0-} f(x)+g(x) = 4 & \lim_{x\to 0+} f(x)-g(x) = 4 & \lim_{x\to 0+} f(x)\,g(x) = 5 \\ \lim_{x\to 0-} \frac{f(x)}{g(x)} = -5 & \lim_{x\to 0} \frac{g(x)}{f(x)} = undefined & Math@MUT \end{bmatrix} \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (\lim_{x\to 1-} f(x) = 0) & .2 = (\lim_{x\to 1+} f(x) = 1) & .3 = (\lim_{x\to 1} f(x) = undefined) \\ .4 = (\lim_{x\to(-3.9)-} f(x) = -4.) & .5 = (\lim_{x\to(-3.9)+} f(x) = -4.) & .6 = (\lim_{x\to(-3.9)} f(x) = -4.) \end{bmatrix}$$

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Limit03 Answers for No.9616

$$Ans1 = \left[\begin{matrix} .1 = \left(\lim_{x\to 2} 4x^2 - 1 = 15\right) & .2 = \left(\lim_{x\to 2} (3x^2+2x+2)^2 = 324\right) & .3 = \left(\lim_{x\to 4} \frac{3x^2+2x}{x^2+1} = \frac{56}{17}\right) \\ .4 = \left(\lim_{x\to 36} \frac{36-x}{6-\sqrt{x}} = 12\right) & .5 = \left(\lim_{x\to(-4)} \frac{1-\sqrt{x+5}}{x+4} = \frac{-1}{2}\right) & .6 = \left(\lim_{x\to 2} \sqrt{3-x} = 1\right) \\ .7 = \left(\lim_{x\to 2} |x-1| = 1\right) & .8 = \left(\lim_{x\to 3} \frac{3-x}{|-3+x|} = undefined\right) & .9 = \left(\lim_{x\to 5+} \frac{x-5}{|x^2-25|} = \frac{1}{10}\right) \\ .10 = \left(\lim_{x\to 0+} \frac{4}{x} + \frac{4}{|x|} = \infty\right) & .11 = \left(\lim_{x\to(4/5)} \frac{|5x-4|}{10x^2-3x-4} = undefined\right) & Math@MUT \end{matrix}\right], \left[\begin{matrix} \underline{:(} \\ :) \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \underline{:)} \\ :'(\end{matrix}\right]$$

$$Ans2 = \left[\begin{matrix} .1 = [\lim_{x\to 0-} f(x) = 4, \lim_{x\to 0+} f(x) = 4, \lim_{x\to 0} f(x) = 4] \\ .2 = [\lim_{x\to 0-} g(x) = -3, \lim_{x\to 0+} g(x) = 3, \lim_{x\to 0} g(x) = undefined] \\ .3 = \left[\begin{matrix} \lim_{x\to 0-} f(x) + g(x) = 1 & \lim_{x\to 0+} f(x) - g(x) = 1 & \lim_{x\to 0-} f(x)\,g(x) = -12 \\ \lim_{x\to 0+} \frac{f(x)}{g(x)} = \frac{4}{3} & \lim_{x\to 0} f(x)\,g(x) = undefined & Math@MUT \end{matrix}\right] \end{matrix}\right]$$

$$Ans3 = \left[\begin{matrix} .1 = \left(\lim_{x\to 3-} f(x) = 2\right) & .2 = \left(\lim_{x\to 3+} f(x) = 3\right) & .3 = \left(\lim_{x\to 3} f(x) = undefined\right) \\ .4 = \left(\lim_{x\to(-3.8)-} f(x) = -4.\right) & .5 = \left(\lim_{x\to(-3.8)+} f(x) = -4.\right) & .6 = \left(\lim_{x\to(-3.8)} f(x) = -4.\right) \end{matrix}\right]$$

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Limit03 Answers for No.10152

$$Ans1 = \begin{bmatrix} .1 = (\lim_{x \to 3} x^3 + 3x^2 + 2x = 60) & .2 = (\lim_{x \to 2} (2x^2 - 2)(x+4) = 36) & .3 = \left(\lim_{x \to 4} \frac{5x^3 - 4x - 4}{x+3} = \frac{300}{7}\right) \\ .4 = \left(\lim_{x \to 81} \frac{81 - x}{\sqrt{x} - 9} = -18\right) & .5 = \left(\lim_{x \to 15} \frac{x - 15}{4 - \sqrt{x+1}} = -8\right) & .6 = (\lim_{x \to 3} \sqrt{1 - x} = undefined) \\ .7 = (\lim_{x \to (-2)} |x - 2| = 4) & .8 = \left(\lim_{x \to 1} \frac{|x - 1|}{1 - x} = undefined\right) & .9 = \left(\lim_{x \to 1+} \frac{|x^2 - 4x + 3|}{x - 1} = 2\right) \\ .10 = \left(\lim_{x \to 0+} \frac{3}{x} + \frac{3}{|x|} = \infty\right) & .11 = \left(\lim_{x \to (4/5)} \frac{|5x - 4|}{5x^2 + 6x - 8} = undefined\right) & Math@MUT \end{bmatrix}, \begin{bmatrix} \frac{:(}{:)} \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \frac{:)}{:'(} \end{bmatrix}$$

$$Ans2 = \begin{bmatrix} .1 = [\lim_{x \to 0-} f(x) = -4, \lim_{x \to 0+} f(x) = -4, \lim_{x \to 0} f(x) = -4] \\ .2 = [\lim_{x \to 0-} g(x) = -2, \lim_{x \to 0+} g(x) = 2, \lim_{x \to 0} g(x) = undefined] \\ .3 = \begin{bmatrix} \lim_{x \to 0+} f(x) + g(x) = -2 & \lim_{x \to 0-} f(x) - g(x) = -2 & \lim_{x \to 0-} f(x)\, g(x) = 8 \\ \lim_{x \to 0+} \frac{f(x)}{g(x)} = -2 & \lim_{x \to 0} f(x)\, g(x) = undefined & Math@MUT \end{bmatrix} \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (\lim_{x \to 2-} f(x) = 2) & .2 = (\lim_{x \to 2+} f(x) = 3) & .3 = (\lim_{x \to 2} f(x) = undefined) \\ .4 = (\lim_{x \to (-4.4)-} f(x) = -4.) & .5 = (\lim_{x \to (-4.4)+} f(x) = -4.) & .6 = (\lim_{x \to (-4.4)} f(x) = -4.) \end{bmatrix}$$

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Limit03 Answers for No.11738

$$Ans1 = \begin{bmatrix} .1 = (\lim_{x\to 1} 2x^3+4x+3 = 9) & .2 = (\lim_{x\to 1} (5x^2+3x-1)(4x^2+3x+3) = 70) & .3 = \left(\lim_{x\to 4} \frac{3x-3}{4x^2-3x+1} = \frac{9}{53}\right) \\ .4 = \left(\lim_{x\to 16} \frac{16-x}{4-\sqrt{x}} = 8\right) & .5 = \left(\lim_{x\to 27} \frac{\sqrt{x-2}-5}{27-x} = \frac{-1}{10}\right) & .6 = (\lim_{x\to 1} \sqrt{1-x} = \mathit{undefined}) \\ .7 = (\lim_{x\to(-2)} |x+3| = 1) & .8 = \left(\lim_{x\to 1} \frac{x-1}{|x-1|} = \mathit{undefined}\right) & .9 = \left(\lim_{x\to 2-} \frac{x-2}{|x^2-6x+8|} = \frac{-1}{2}\right) \\ .10 = \left(\lim_{x\to 0+} \frac{3}{x} - \frac{3}{|x|} = 0\right) & .11 = \left(\lim_{x\to(4/3)} \frac{12x^2-25x+12}{|3x-4|} = \mathit{undefined}\right) & \mathit{Math@MUT} \end{bmatrix}, \begin{bmatrix} \frac{:(}{:)} \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \frac{:)}{:'(} \end{bmatrix}$$

$$Ans2 = \begin{bmatrix} .1 = [\lim_{x\to 0-} f(x) = -5, \lim_{x\to 0+} f(x) = -5, \lim_{x\to 0} f(x) = -5] \\ .2 = [\lim_{x\to 0-} g(x) = -3, \lim_{x\to 0+} g(x) = 3, \lim_{x\to 0} g(x) = \mathit{undefined}] \\ .3 = \begin{bmatrix} \lim_{x\to 0+} f(x)+g(x) = -2 & \lim_{x\to 0-} f(x)-g(x) = -2 & \lim_{x\to 0+} f(x)\,g(x) = -15 \\ \lim_{x\to 0-} \frac{f(x)}{g(x)} = \frac{5}{3} & \lim_{x\to 0} f(x)-g(x) = \mathit{undefined} & \mathit{Math@MUT} \end{bmatrix} \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (\lim_{x\to 3-} f(x) = 2) & .2 = (\lim_{x\to 3+} f(x) = 3) & .3 = (\lim_{x\to 3} f(x) = \mathit{undefined}) \\ .4 = (\lim_{x\to(-4.9)-} f(x) = -5.) & .5 = (\lim_{x\to(-4.9)+} f(x) = -5.) & .6 = (\lim_{x\to(-4.9)} f(x) = -5.) \end{bmatrix}$$

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$$Ans2 = \left[\begin{array}{c} .1 = [\lim_{x \to 0-} f(x) = -1,\ \lim_{x \to 0+} f(x) = 1,\ \lim_{x \to 0} f(x) = undefined] \\ .2 = [\lim_{x \to 0-} g(x) = -2,\ \lim_{x \to 0+} g(x) = -2,\ \lim_{x \to 0} g(x) = -2] \\ .3 = \left[\begin{array}{ccc} \lim_{x \to 0+} f(x) + g(x) = -1 & \lim_{x \to 0+} f(x) - g(x) = 3 & \lim_{x \to 0-} f(x)\, g(x) = 2 \\ \lim_{x \to 0-} \frac{f(x)}{g(x)} = \frac{1}{2} & \lim_{x \to 0} \frac{f(x)}{g(x)} = undefined & Math@MUT \end{array} \right] \end{array} \right]$$

$$Ans3 = \left[\begin{array}{ccc} .1 = (\lim_{x \to 2-} f(x) = 2) & .2 = (\lim_{x \to 2+} f(x) = 3) & .3 = (\lim_{x \to 2} f(x) = undefined) \\ .4 = (\lim_{x \to (-3.8)-} f(x) = -3.) & .5 = (\lim_{x \to (-3.8)+} f(x) = -3.) & .6 = (\lim_{x \to (-3.8)} f(x) = -3.) \end{array} \right]$$

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$$Ans2 = \begin{bmatrix} .1 = [\lim_{x \to 0-} f(x) = -4,\ \lim_{x \to 0+} f(x) = 4,\ \lim_{x \to 0} f(x) = undefined] \\ .2 = [\lim_{x \to 0-} g(x) = 5,\ \lim_{x \to 0+} g(x) = 5,\ \lim_{x \to 0} g(x) = 5] \\ .3 = \begin{bmatrix} \lim_{x \to 0+} f(x) + g(x) = 9 & \lim_{x \to 0-} f(x) - g(x) = -9 & \lim_{x \to 0-} f(x)\, g(x) = -20 \\ \lim_{x \to 0+} \frac{f(x)}{g(x)} = \frac{4}{5} & \lim_{x \to 0} \frac{f(x)}{g(x)} = undefined & Math@MUT \end{bmatrix} \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (\lim_{x \to 3-} f(x) = 3) & .2 = (\lim_{x \to 3+} f(x) = 4) & .3 = (\lim_{x \to 3} f(x) = undefined) \\ .4 = (\lim_{x \to (-3.3)-} f(x) = -3.) & .5 = (\lim_{x \to (-3.3)+} f(x) = -3.) & .6 = (\lim_{x \to (-3.3)} f(x) = -3.) \end{bmatrix}$$

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$$Ans2 = \begin{bmatrix} .1 = [\lim_{x \to 0-} f(x) = -4,\ \lim_{x \to 0+} f(x) = 4,\ \lim_{x \to 0} f(x) = undefined] \\ .2 = [\lim_{x \to 0-} g(x) = -2,\ \lim_{x \to 0+} g(x) = -2,\ \lim_{x \to 0} g(x) = -2] \\ .3 = \begin{bmatrix} \lim_{x \to 0+} f(x) + g(x) = 2 & \lim_{x \to 0-} f(x) - g(x) = -2 & \lim_{x \to 0+} f(x)\, g(x) = -8 \\ \lim_{x \to 0-} \frac{f(x)}{g(x)} = 2 & \lim_{x \to 0} \frac{g(x)}{f(x)} = undefined & Math@MUT \end{bmatrix} \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (\lim_{x \to 3-} f(x) = 2) & .2 = (\lim_{x \to 3+} f(x) = 3) & .3 = (\lim_{x \to 3} f(x) = undefined) \\ .4 = (\lim_{x \to (-4.4)-} f(x) = -5.) & .5 = (\lim_{x \to (-4.4)+} f(x) = -5.) & .6 = (\lim_{x \to (-4.4)} f(x) = -5.) \end{bmatrix}$$

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$$Ans2 = \left[\begin{array}{c} .1 = [\lim_{x \to 0-} f(x) = -2,\ \lim_{x \to 0+} f(x) = -2,\ \lim_{x \to 0} f(x) = -2] \\ .2 = [\lim_{x \to 0-} g(x) = -2,\ \lim_{x \to 0+} g(x) = 2,\ \lim_{x \to 0} g(x) = undefined] \\ .3 = \left[\begin{array}{ccc} \lim_{x \to 0-} f(x) + g(x) = -4 & \lim_{x \to 0+} f(x) - g(x) = -4 & \lim_{x \to 0-} f(x)\, g(x) = 4 \\ \lim_{x \to 0+} \frac{f(x)}{g(x)} = -1 & \lim_{x \to 0} \frac{g(x)}{f(x)} = undefined & Math@MUT \end{array} \right] \end{array} \right]$$

$$Ans3 = \left[\begin{array}{ccc} .1 = (\lim_{x \to 5-} f(x) = 5) & .2 = (\lim_{x \to 5+} f(x) = 6) & .3 = (\lim_{x \to 5} f(x) = undefined) \\ .4 = (\lim_{x \to (-2.9)-} f(x) = -2.) & .5 = (\lim_{x \to (-2.9)+} f(x) = -2.) & .6 = (\lim_{x \to (-2.9)} f(x) = -2.) \end{array} \right]$$

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$$Ans2 = \left[\begin{array}{c} .1 = [\lim_{x \to 0-} f(x) = 2,\ \lim_{x \to 0+} f(x) = 2,\ \lim_{x \to 0} f(x) = 2] \\ .2 = [\lim_{x \to 0-} g(x) = -3,\ \lim_{x \to 0+} g(x) = 3,\ \lim_{x \to 0} g(x) = undefined] \\ .3 = \left[\begin{array}{ccc} \lim_{x \to 0+} f(x) + g(x) = 5 & \lim_{x \to 0-} f(x) - g(x) = 5 & \lim_{x \to 0+} f(x)\, g(x) = 6 \\ \lim_{x \to 0-} \frac{f(x)}{g(x)} = \frac{-2}{3} & \lim_{x \to 0} f(x)\, g(x) = undefined & Math@MUT \end{array} \right] \end{array} \right]$$

$$Ans3 = \left[\begin{array}{ccc} .1 = (\lim_{x \to 2-} f(x) = 2) & .2 = (\lim_{x \to 2+} f(x) = 3) & .3 = (\lim_{x \to 2} f(x) = undefined) \\ .4 = (\lim_{x \to (-2.8)-} f(x) = -2.) & .5 = (\lim_{x \to (-2.8)+} f(x) = -2.) & .6 = (\lim_{x \to (-2.8)} f(x) = -2.) \end{array} \right]$$

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$$Ans2 = \begin{bmatrix} .1 = [\lim_{x \to 0-} f(x) = -3,\ \lim_{x \to 0+} f(x) = -3,\ \lim_{x \to 0} f(x) = -3] \\ .2 = [\lim_{x \to 0-} g(x) = -3,\ \lim_{x \to 0+} g(x) = 3,\ \lim_{x \to 0} g(x) = undefined] \\ .3 = \begin{bmatrix} \lim_{x \to 0+} f(x) + g(x) = 0 & \lim_{x \to 0-} f(x) - g(x) = 0 & \lim_{x \to 0-} f(x)\, g(x) = 9 \\ \lim_{x \to 0+} \frac{f(x)}{g(x)} = -1 & \lim_{x \to 0} \frac{f(x)}{g(x)} = undefined & Math@MUT \end{bmatrix} \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (\lim_{x \to 3-} f(x) = 2) & .2 = (\lim_{x \to 3+} f(x) = 3) & .3 = (\lim_{x \to 3} f(x) = undefined) \\ .4 = (\lim_{x \to (-4.3)-} f(x) = -5.) & .5 = (\lim_{x \to (-4.3)+} f(x) = -5.) & .6 = (\lim_{x \to (-4.3)} f(x) = -5.) \end{bmatrix}$$

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$$Ans2 = \left[\begin{array}{c} .1 = [\lim_{x \to 0-} f(x) = -1,\ \lim_{x \to 0+} f(x) = -1,\ \lim_{x \to 0} f(x) = -1] \\ .2 = [\lim_{x \to 0-} g(x) = -4,\ \lim_{x \to 0+} g(x) = 4,\ \lim_{x \to 0} g(x) = undefined] \\ .3 = \left[\begin{array}{ccc} \lim_{x \to 0+} f(x) + g(x) = 3 & \lim_{x \to 0+} f(x) - g(x) = -5 & \lim_{x \to 0-} f(x)\, g(x) = 4 \\ \lim_{x \to 0-} \frac{f(x)}{g(x)} = \frac{1}{4} & \lim_{x \to 0} \frac{g(x)}{f(x)} = undefined & Math@MUT \end{array} \right] \end{array} \right]$$

$$Ans3 = \left[\begin{array}{ccc} .1 = (\lim_{x \to 3-} f(x) = 2) & .2 = (\lim_{x \to 3+} f(x) = 3) & .3 = (\lim_{x \to 3} f(x) = undefined) \\ .4 = (\lim_{x \to (-1.7)-} f(x) = -2.) & .5 = (\lim_{x \to (-1.7)+} f(x) = -2.) & .6 = (\lim_{x \to (-1.7)} f(x) = -2.) \end{array} \right]$$

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$$Ans2 = \begin{bmatrix} .1 = [\lim_{x \to 0-} f(x) = -4,\ \lim_{x \to 0+} f(x) = 4,\ \lim_{x \to 0} f(x) = undefined] \\ .2 = [\lim_{x \to 0-} g(x) = 2,\ \lim_{x \to 0+} g(x) = 2,\ \lim_{x \to 0} g(x) = 2] \\ .3 = \begin{bmatrix} \lim_{x \to 0+} f(x) + g(x) = 6 & \lim_{x \to 0-} f(x) - g(x) = -6 & \lim_{x \to 0-} f(x)\, g(x) = -8 \\ \lim_{x \to 0+} \frac{f(x)}{g(x)} = 2 & \lim_{x \to 0} \frac{g(x)}{f(x)} = undefined & Math@MUT \end{bmatrix} \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (\lim_{x \to 1-} f(x) = 1) & .2 = (\lim_{x \to 1+} f(x) = 2) & .3 = (\lim_{x \to 1} f(x) = undefined) \\ .4 = (\lim_{x \to (-1.2)-} f(x) = -1.) & .5 = (\lim_{x \to (-1.2)+} f(x) = -1.) & .6 = (\lim_{x \to (-1.2)} f(x) = -1.) \end{bmatrix}$$

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$$Ans2 = \left[\begin{array}{c} .1 = [\lim_{x \to 0-} f(x) = 2,\ \lim_{x \to 0+} f(x) = 2,\ \lim_{x \to 0} f(x) = 2] \\ .2 = [\lim_{x \to 0-} g(x) = -1,\ \lim_{x \to 0+} g(x) = 1,\ \lim_{x \to 0} g(x) = undefined] \\ .3 = \left[\begin{array}{ccc} \lim_{x \to 0+} f(x) + g(x) = 3 & \lim_{x \to 0+} f(x) - g(x) = 1 & \lim_{x \to 0-} f(x)\, g(x) = -2 \\ \lim_{x \to 0-} \frac{f(x)}{g(x)} = -2 & \lim_{x \to 0} f(x) - g(x) = undefined & Math@MUT \end{array} \right] \end{array} \right]$$

$$Ans3 = \left[\begin{array}{ccc} .1 = (\lim_{x \to 5-} f(x) = 5) & .2 = (\lim_{x \to 5+} f(x) = 6) & .3 = (\lim_{x \to 5} f(x) = undefined) \\ .4 = (\lim_{x \to (-4.9)-} f(x) = -4.) & .5 = (\lim_{x \to (-4.9)+} f(x) = -4.) & .6 = (\lim_{x \to (-4.9)} f(x) = -4.) \end{array} \right]$$

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$$Ans2 = \begin{bmatrix} .1 = [\lim_{x \to 0-} f(x) = 1,\ \lim_{x \to 0+} f(x) = 1,\ \lim_{x \to 0} f(x) = 1] \\ .2 = [\lim_{x \to 0-} g(x) = -4,\ \lim_{x \to 0+} g(x) = 4,\ \lim_{x \to 0} g(x) = undefined] \\ .3 = \begin{bmatrix} \lim_{x \to 0+} f(x) + g(x) = 5 & \lim_{x \to 0+} f(x) - g(x) = -3 & \lim_{x \to 0-} f(x)\, g(x) = -4 \\ \lim_{x \to 0-} \frac{f(x)}{g(x)} = \frac{-1}{4} & \lim_{x \to 0} \frac{g(x)}{f(x)} = undefined & Math@MUT \end{bmatrix} \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (\lim_{x \to 5-} f(x) = 5) & .2 = (\lim_{x \to 5+} f(x) = 6) & .3 = (\lim_{x \to 5} f(x) = undefined) \\ .4 = (\lim_{x \to (-5.5)-} f(x) = -5.) & .5 = (\lim_{x \to (-5.5)+} f(x) = -5.) & .6 = (\lim_{x \to (-5.5)} f(x) = -5.) \end{bmatrix}$$

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$$Ans2 = \begin{bmatrix} .1 = [\lim_{x \to 0-} f(x) = 2,\ \lim_{x \to 0+} f(x) = 2,\ \lim_{x \to 0} f(x) = 2] \\ .2 = [\lim_{x \to 0-} g(x) = -4,\ \lim_{x \to 0+} g(x) = 4,\ \lim_{x \to 0} g(x) = undefined] \\ .3 = \begin{bmatrix} \lim_{x \to 0-} f(x) + g(x) = -2 & \lim_{x \to 0+} f(x) - g(x) = -2 & \lim_{x \to 0+} f(x)\, g(x) = 8 \\ \lim_{x \to 0-} \frac{f(x)}{g(x)} = \frac{-1}{2} & \lim_{x \to 0} f(x)\, g(x) = undefined & Math@MUT \end{bmatrix} \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (\lim_{x \to 4-} f(x) = 4) & .2 = (\lim_{x \to 4+} f(x) = 5) & .3 = (\lim_{x \to 4} f(x) = undefined) \\ .4 = (\lim_{x \to (-4.2)-} f(x) = -4.) & .5 = (\lim_{x \to (-4.2)+} f(x) = -4.) & .6 = (\lim_{x \to (-4.2)} f(x) = -4.) \end{bmatrix}$$

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$$Ans2 = \left[\begin{array}{c} .1 = [\lim_{x \to 0-} f(x) = 5, \lim_{x \to 0+} f(x) = 5, \lim_{x \to 0} f(x) = 5] \\ .2 = [\lim_{x \to 0-} g(x) = -4, \lim_{x \to 0+} g(x) = 4, \lim_{x \to 0} g(x) = undefined] \\ .3 = \left[\begin{array}{ccc} \lim_{x \to 0-} f(x) + g(x) = 1 & \lim_{x \to 0-} f(x) - g(x) = 9 & \lim_{x \to 0+} f(x)\, g(x) = 20 \\ \lim_{x \to 0+} \frac{f(x)}{g(x)} = \frac{5}{4} & \lim_{x \to 0} f(x)\, g(x) = undefined & Math@MUT \end{array} \right] \end{array} \right]$$

$$Ans3 = \left[\begin{array}{ccc} .1 = (\lim_{x \to 3-} f(x) = 3) & .2 = (\lim_{x \to 3+} f(x) = 4) & .3 = (\lim_{x \to 3} f(x) = undefined) \\ .4 = (\lim_{x \to (-2.6)-} f(x) = -2.) & .5 = (\lim_{x \to (-2.6)+} f(x) = -2.) & .6 = (\lim_{x \to (-2.6)} f(x) = -2.) \end{array} \right]$$

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$$Ans2 = \begin{bmatrix} .1 = [\lim_{x \to 0-} f(x) = -4,\ \lim_{x \to 0+} f(x) = 4,\ \lim_{x \to 0} f(x) = undefined] \\ .2 = [\lim_{x \to 0-} g(x) = -2,\ \lim_{x \to 0+} g(x) = -2,\ \lim_{x \to 0} g(x) = -2] \\ .3 = \begin{bmatrix} \lim_{x \to 0+} f(x) + g(x) = 2 & \lim_{x \to 0-} f(x) - g(x) = -2 & \lim_{x \to 0-} f(x)\, g(x) = 8 \\ \lim_{x \to 0+} \frac{f(x)}{g(x)} = -2 & \lim_{x \to 0} \frac{f(x)}{g(x)} = undefined & Math@MUT \end{bmatrix} \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (\lim_{x \to 4-} f(x) = 4) & .2 = (\lim_{x \to 4+} f(x) = 5) & .3 = (\lim_{x \to 4} f(x) = undefined) \\ .4 = (\lim_{x \to (-5.2)-} f(x) = -5.) & .5 = (\lim_{x \to (-5.2)+} f(x) = -5.) & .6 = (\lim_{x \to (-5.2)} f(x) = -5.) \end{bmatrix}$$

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$$Ans2 = \left[\begin{array}{c} .1 = [\lim_{x \to 0-} f(x) = -3,\ \lim_{x \to 0+} f(x) = 3,\ \lim_{x \to 0} f(x) = undefined] \\ .2 = [\lim_{x \to 0-} g(x) = 3,\ \lim_{x \to 0+} g(x) = 3,\ \lim_{x \to 0} g(x) = 3] \\ .3 = \left[\begin{array}{ccc} \lim_{x \to 0+} f(x) + g(x) = 6 & \lim_{x \to 0-} f(x) - g(x) = -6 & \lim_{x \to 0-} f(x)\, g(x) = -9 \\ \lim_{x \to 0+} \frac{f(x)}{g(x)} = 1 & \lim_{x \to 0} f(x)\, g(x) = undefined & Math@MUT \end{array} \right] \end{array} \right]$$

$$Ans3 = \left[\begin{array}{ccc} .1 = (\lim_{x \to 5-} f(x) = 4) & .2 = (\lim_{x \to 5+} f(x) = 5) & .3 = (\lim_{x \to 5} f(x) = undefined) \\ .4 = (\lim_{x \to (-3.2)-} f(x) = -4.) & .5 = (\lim_{x \to (-3.2)+} f(x) = -4.) & .6 = (\lim_{x \to (-3.2)} f(x) = -4.) \end{array} \right]$$

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$$Ans2 = \begin{bmatrix} .1 = [\lim_{x \to 0-} f(x) = -2,\ \lim_{x \to 0+} f(x) = 2,\ \lim_{x \to 0} f(x) = undefined] \\ .2 = [\lim_{x \to 0-} g(x) = 2,\ \lim_{x \to 0+} g(x) = 2,\ \lim_{x \to 0} g(x) = 2] \\ .3 = \begin{bmatrix} \lim_{x \to 0-} f(x) + g(x) = 0 & \lim_{x \to 0-} f(x) - g(x) = -4 & \lim_{x \to 0+} f(x)\, g(x) = 4 \\ \lim_{x \to 0+} \frac{f(x)}{g(x)} = 1 & \lim_{x \to 0} f(x) + g(x) = undefined & Math@MUT \end{bmatrix} \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (\lim_{x \to 3-} f(x) = 3) & .2 = (\lim_{x \to 3+} f(x) = 4) & .3 = (\lim_{x \to 3} f(x) = undefined) \\ .4 = (\lim_{x \to (-5.1)-} f(x) = -5.) & .5 = (\lim_{x \to (-5.1)+} f(x) = -5.) & .6 = (\lim_{x \to (-5.1)} f(x) = -5.) \end{bmatrix}$$

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$$Ans2 = \left[\begin{array}{c} .1 = [\lim_{x \to 0-} f(x) = -2,\ \lim_{x \to 0+} f(x) = 2,\ \lim_{x \to 0} f(x) = undefined] \\ .2 = [\lim_{x \to 0-} g(x) = 1,\ \lim_{x \to 0+} g(x) = 1,\ \lim_{x \to 0} g(x) = 1] \\ .3 = \left[\begin{array}{ccc} \lim_{x \to 0-} f(x) + g(x) = -1 & \lim_{x \to 0+} f(x) - g(x) = 1 & \lim_{x \to 0-} f(x)\, g(x) = -2 \\ \lim_{x \to 0+} \frac{f(x)}{g(x)} = 2 & \lim_{x \to 0} f(x)\, g(x) = undefined & Math@MUT \end{array} \right] \end{array} \right]$$

$$Ans3 = \left[\begin{array}{ccc} .1 = (\lim_{x \to 4-} f(x) = 3) & .2 = (\lim_{x \to 4+} f(x) = 4) & .3 = (\lim_{x \to 4} f(x) = undefined) \\ .4 = (\lim_{x \to (-4.2)-} f(x) = -5.) & .5 = (\lim_{x \to (-4.2)+} f(x) = -5.) & .6 = (\lim_{x \to (-4.2)} f(x) = -5.) \end{array} \right]$$

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$$Ans2 = \begin{bmatrix} .1 = [\lim_{x \to 0-} f(x) = 2,\ \lim_{x \to 0+} f(x) = 2,\ \lim_{x \to 0} f(x) = 2] \\ .2 = [\lim_{x \to 0-} g(x) = -3,\ \lim_{x \to 0+} g(x) = 3,\ \lim_{x \to 0} g(x) = undefined] \\ .3 = \begin{bmatrix} \lim_{x \to 0-} f(x) + g(x) = -1 & \lim_{x \to 0+} f(x) - g(x) = -1 & \lim_{x \to 0+} f(x)\, g(x) = 6 \\ \lim_{x \to 0-} \frac{f(x)}{g(x)} = \frac{-2}{3} & \lim_{x \to 0} \frac{f(x)}{g(x)} = undefined & Math@MUT \end{bmatrix} \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (\lim_{x \to 5-} f(x) = 5) & .2 = (\lim_{x \to 5+} f(x) = 6) & .3 = (\lim_{x \to 5} f(x) = undefined) \\ .4 = (\lim_{x \to (-4.2)-} f(x) = -4.) & .5 = (\lim_{x \to (-4.2)+} f(x) = -4.) & .6 = (\lim_{x \to (-4.2)} f(x) = -4.) \end{bmatrix}$$

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$$Ans2 = \left[\begin{array}{c} .1 = [\lim_{x \to 0-} f(x) = -1, \lim_{x \to 0+} f(x) = 1, \lim_{x \to 0} f(x) = undefined] \\ .2 = [\lim_{x \to 0-} g(x) = -3, \lim_{x \to 0+} g(x) = -3, \lim_{x \to 0} g(x) = -3] \\ .3 = \left[\begin{array}{ccc} \lim_{x \to 0+} f(x) + g(x) = -2 & \lim_{x \to 0-} f(x) - g(x) = 2 & \lim_{x \to 0-} f(x)\, g(x) = 3 \\ \lim_{x \to 0+} \frac{f(x)}{g(x)} = \frac{-1}{3} & \lim_{x \to 0} \frac{g(x)}{f(x)} = undefined & Math@MUT \end{array} \right] \end{array} \right]$$

$$Ans3 = \left[\begin{array}{ccc} .1 = (\lim_{x \to 4-} f(x) = 4) & .2 = (\lim_{x \to 4+} f(x) = 5) & .3 = (\lim_{x \to 4} f(x) = undefined) \\ .4 = (\lim_{x \to (-5.1)-} f(x) = -5.) & .5 = (\lim_{x \to (-5.1)+} f(x) = -5.) & .6 = (\lim_{x \to (-5.1)} f(x) = -5.) \end{array} \right]$$

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