Limit03 Answers for No.9594

$$Ans1 = \begin{bmatrix} .1 = (\lim_{x\to 3} 2x^2+2 = 20) & .2 = (\lim_{x\to 2} (4x-3)(3x^3-2x^2+1) = 85) & .3 = \left(\lim_{x\to 1} \frac{x^2+2x+3}{3x-1} = 3\right) \\ .4 = \left(\lim_{x\to 49} \frac{7-\sqrt{x}}{x-49} = \frac{-1}{14}\right) & .5 = \left(\lim_{x\to 27} \frac{\sqrt{x-2}-5}{x-27} = \frac{1}{10}\right) & .6 = (\lim_{x\to 3} \sqrt{x-3} = undefined) \\ .7 = (\lim_{x\to 3} |x-1| = 2) & .8 = \left(\lim_{x\to 2} \frac{x-2}{|x-2|} = undefined\right) & .9 = \left(\lim_{x\to 3-} \frac{|x^2+2x-15|}{x-3} = -8\right) \\ .10 = \left(\lim_{x\to 0-} \frac{4}{x} - \frac{4}{|x|} = -\infty\right) & .11 = \left(\lim_{x\to (4/5)} \frac{|5x-4|}{15x^2-22x+8} = undefined\right) & Math@MUT \end{bmatrix}, \begin{bmatrix} \frac{:(}{:)} \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \frac{:)}{:'(} \end{bmatrix}$$

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

$$Ans3 = \begin{bmatrix} .1 = (\lim_{x\to 5-} f(x) = 4) & .2 = (\lim_{x\to 5+} f(x) = 5) & .3 = (\lim_{x\to 5} f(x) = undefined) \\ .4 = (\lim_{x\to (-1.3)-} f(x) = -2.) & .5 = (\lim_{x\to (-1.3)+} f(x) = -2.) & .6 = (\lim_{x\to (-1.3)} f(x) = -2.) \end{bmatrix}$$

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Limit03 Answers for No.9608

$$Ans1 = \begin{bmatrix} .1 = \left(\lim_{x\to 2} 2x^3+3 = 19\right) & .2 = \left(\lim_{x\to 2} (x^2-3x-3)(4x+4) = -60\right) & .3 = \left(\lim_{x\to 2} \frac{x+2}{3x^3+2x} = \frac{1}{7}\right) \\ .4 = \left(\lim_{x\to 1} \frac{\sqrt{x}-1}{1-x} = \frac{-1}{2}\right) & .5 = \left(\lim_{x\to 11} \frac{4-\sqrt{x+5}}{11-x} = \frac{1}{8}\right) & .6 = \left(\lim_{x\to 2} \sqrt{x-3} = undefined\right) \\ .7 = \left(\lim_{x\to (-3)} |x+2| = 1\right) & .8 = \left(\lim_{x\to 3} \frac{x-3}{|x-3|} = undefined\right) & .9 = \left(\lim_{x\to 5+} \frac{|x^2-7x+10|}{x-5} = 3\right) \\ .10 = \left(\lim_{x\to 0+} \frac{2}{|x|} - \frac{2}{x} = 0\right) & .11 = \left(\lim_{x\to (1/4)} \frac{4x^2+7x-2}{|4x-1|} = undefined\right) & Math@MUT \end{bmatrix}, \begin{bmatrix} \underline{:(} \\ :) \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \underline{:)} \\ :'(\end{bmatrix}$$

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

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

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Limit03 Answers for No.9646

$$Ans1 = \left[\begin{matrix} .1 = (\lim_{x\to 2} 2x^2 - 4x + 1 = 1) & .2 = (\lim_{x\to 1} (2x^2+2x+3)(3x+3) = 42) & .3 = \left(\lim_{x\to 1} \frac{5x+1}{2x+4} = 1\right) \\ .4 = \left(\lim_{x\to 25} \frac{\sqrt{x}-5}{x-25} = \frac{1}{10}\right) & .5 = \left(\lim_{x\to 26} \frac{\sqrt{x-1}-5}{x-26} = \frac{1}{10}\right) & .6 = (\lim_{x\to 3} \sqrt{x-1} = \sqrt{2}) \\ .7 = (\lim_{x\to(-1)} |x+3| = 2) & .8 = \left(\lim_{x\to 2} \frac{x-2}{|x-2|} = undefined\right) & .9 = \left(\lim_{x\to 5+} \frac{|x^2-7x+10|}{x-5} = 3\right) \\ .10 = \left(\lim_{x\to 0-} \frac{5}{x} - \frac{5}{|x|} = -\infty\right) & .11 = \left(\lim_{x\to(4/5)} \frac{20x^2-41x+20}{|5x-4|} = undefined\right) & Math@MUT \end{matrix}\right], \left[\begin{matrix} \frac{:(}{:)} \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \frac{:)}{:'(} \end{matrix}\right]$$

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

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

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Limit03 Answers for No.9649

$$Ans1 = \begin{bmatrix} .1 = (\lim_{x\to 3} x^2+x+2 = 14) & .2 = (\lim_{x\to 2} (x+1)(2x^3-3x+2) = 36) & .3 = \left(\lim_{x\to 1} \frac{4x^3+x^2+2x}{2x+2} = \frac{7}{4}\right) \\ .4 = \left(\lim_{x\to 9} \frac{\sqrt{x}-3}{x-9} = \frac{1}{6}\right) & .5 = \left(\lim_{x\to 19} \frac{19-x}{\sqrt{x-3}-4} = -8\right) & .6 = (\lim_{x\to 2} \sqrt{3-x} = 1) \\ .7 = (\lim_{x\to(-2)} |x-1| = 3) & .8 = \left(\lim_{x\to 3} \frac{|x-3|}{3-x} = undefined\right) & .9 = \left(\lim_{x\to 1+} \frac{x-1}{|x^2+3x-4|} = \frac{1}{5}\right) \\ .10 = \left(\lim_{x\to 0-} \frac{3}{x} - \frac{3}{|x|} = -\infty\right) & .11 = \left(\lim_{x\to(3/4)} \frac{|4x-3|}{4x^2+13x-12} = undefined\right) & Math@MUT \end{bmatrix}, \begin{bmatrix} \underline{:(} \\ :) \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \underline{:)} \\ :'(\end{bmatrix}$$

$$Ans2 = \begin{bmatrix} .1 = [\lim_{x\to 0-} f(x) = 5, \lim_{x\to 0+} f(x) = 5, \lim_{x\to 0} f(x) = 5] \\ .2 = [\lim_{x\to 0-} g(x) = -5, \lim_{x\to 0+} g(x) = 5, \lim_{x\to 0} g(x) = undefined] \\ .3 = \begin{bmatrix} \lim_{x\to 0+} f(x)+g(x) = 10 & \lim_{x\to 0-} f(x)-g(x) = 10 & \lim_{x\to 0-} f(x)\,g(x) = -25 \\ \lim_{x\to 0+} \frac{f(x)}{g(x)} = 1 & \lim_{x\to 0} f(x)\,g(x) = undefined & Math@MUT \end{bmatrix} \end{bmatrix}$$

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

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Limit03 Answers for No.9669

$$Ans1 = \begin{bmatrix} .1 = (\lim_{x\to 1} 2x^3 - 4x + 4 = 2) & .2 = (\lim_{x\to 3} (2x-4)(5x^2+2) = 94) & .3 = \left(\lim_{x\to 1} \frac{5x^3-2}{x+1} = \frac{3}{2}\right) \\ .4 = \left(\lim_{x\to 49} \frac{\sqrt{x}-7}{49-x} = \frac{-1}{14}\right) & .5 = \left(\lim_{x\to 27} \frac{27-x}{\sqrt{x-2}-5} = -10\right) & .6 = (\lim_{x\to 2} \sqrt{1-x} = undefined) \\ .7 = (\lim_{x\to 3} |x-1| = 2) & .8 = \left(\lim_{x\to 2} \frac{|x-2|}{2-x} = undefined\right) & .9 = \left(\lim_{x\to 4+} \frac{x-4}{|x^2-9x+20|} = 1\right) \\ .10 = \left(\lim_{x\to 0-} \frac{2}{x} + \frac{2}{|x|} = 0\right) & .11 = \left(\lim_{x\to (1/3)} \frac{|3x-1|}{3x^2-10x+3} = undefined\right) & Math@MUT \end{bmatrix}, \begin{bmatrix} \frac{:(}{:)} \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \frac{:)}{:'(} \end{bmatrix}$$

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

$$Ans3 = \begin{bmatrix} .1 = (\lim_{x\to 2-} f(x) = 2) & .2 = (\lim_{x\to 2+} f(x) = 3) & .3 = (\lim_{x\to 2} f(x) = undefined) \\ .4 = (\lim_{x\to (-3.7)-} f(x) = -3.) & .5 = (\lim_{x\to (-3.7)+} f(x) = -3.) & .6 = (\lim_{x\to (-3.7)} f(x) = -3.) \end{bmatrix}$$

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Limit03 Answers for No.9717

$$Ans1 = \begin{bmatrix} .1 = (\lim_{x\to 2} 4x^3 = 32) & .2 = (\lim_{x\to 3} (x+3)(4x^2-3x+3) = 180) & .3 = \left(\lim_{x\to 2} \frac{4x-1}{2x^3-2x^2+1} = \frac{7}{9}\right) \\ .4 = \left(\lim_{x\to 64} \frac{8-\sqrt{x}}{x-64} = \frac{-1}{16}\right) & .5 = \left(\lim_{x\to 5} \frac{\sqrt{x-1}-2}{5-x} = \frac{-1}{4}\right) & .6 = (\lim_{x\to 2} \sqrt{x-2} = undefined) \\ .7 = (\lim_{x\to(-2)} |x+2| = 0) & .8 = \left(\lim_{x\to 2} \frac{|x-2|}{2-x} = undefined\right) & .9 = \left(\lim_{x\to 5-} \frac{x-5}{|x^2-25|} = \frac{-1}{10}\right) \\ .10 = \left(\lim_{x\to 0+} \frac{4}{x} + \frac{4}{|x|} = \infty\right) & .11 = \left(\lim_{x\to(2/5)} \frac{|5x-2|}{5x^2-22x+8} = undefined\right) & Math@MUT \end{bmatrix}, \begin{bmatrix} \underline{:(} \\ :) \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \underline{:)} \\ :'(\end{bmatrix}$$

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

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

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Limit03 Answers for No.9763

$$Ans1 = \begin{bmatrix} .1 = \left(\lim_{x \to 3} x^2 - 2x + 3 = 6\right) & .2 = \left(\lim_{x \to 3} (3x^2 - 3x)(4x^2 - 2) = 612\right) & .3 = \left(\lim_{x \to 4} \frac{3x^2 + 4x + 2}{5x + 2} = 3\right) \\ .4 = \left(\lim_{x \to 9} \frac{\sqrt{x} - 3}{x - 9} = \frac{1}{6}\right) & .5 = \left(\lim_{x \to 4} \frac{4 - x}{3 - \sqrt{x + 5}} = 6\right) & .6 = \left(\lim_{x \to 3} \sqrt{1 - x} = undefined\right) \\ .7 = \left(\lim_{x \to 3} |x + 3| = 6\right) & .8 = \left(\lim_{x \to 2} \frac{x - 2}{|x - 2|} = undefined\right) & .9 = \left(\lim_{x \to 3+} \frac{x - 3}{|x^2 - 8x + 15|} = \frac{1}{2}\right) \\ .10 = \left(\lim_{x \to 0-} \frac{2}{x} - \frac{2}{|x|} = -\infty\right) & .11 = \left(\lim_{x \to (3/2)} \frac{8x^2 - 14x + 3}{|2x - 3|} = undefined\right) & Math@MUT \end{bmatrix}, \begin{bmatrix} \underline{:(} \\ :) \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \underline{:)} \\ :'(\end{bmatrix}$$

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

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

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Limit03 Answers for No.9877

$$Ans1 = \begin{bmatrix} .1 = (\lim_{x \to 3} 5x^2 - 2x + 2 = 41) & .2 = (\lim_{x \to 1} (x+1)(2x^2 - 2) = 0) & .3 = \left(\lim_{x \to 1} \frac{3x^2 - 2x}{3x - 1} = \frac{1}{2}\right) \\ .4 = \left(\lim_{x \to 4} \frac{4 - x}{2 - \sqrt{x}} = 4\right) & .5 = \left(\lim_{x \to 24} \frac{5 - \sqrt{x+1}}{x - 24} = \frac{-1}{10}\right) & .6 = (\lim_{x \to 1} \sqrt{3 - x} = \sqrt{2}) \\ .7 = (\lim_{x \to (-2)} |x - 3| = 5) & .8 = \left(\lim_{x \to 1} \frac{|x - 1|}{x - 1} = undefined\right) & .9 = \left(\lim_{x \to 5+} \frac{x - 5}{|x^2 - 6x + 5|} = \frac{1}{4}\right) \\ .10 = \left(\lim_{x \to 0-} \frac{4}{x} - \frac{4}{|x|} = -\infty\right) & .11 = \left(\lim_{x \to (4/5)} \frac{10x^2 - 13x + 4}{|5x - 4|} = undefined\right) & Math@MUT \end{bmatrix}, \begin{bmatrix} \underline{:(} \\ :) \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \underline{:)} \\ :'(\end{bmatrix}$$

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

$$Ans3 = \begin{bmatrix} .1 = (\lim_{x \to 3-} f(x) = 2) & .2 = (\lim_{x \to 3+} f(x) = 3) & .3 = (\lim_{x \to 3} f(x) = undefined) \\ .4 = (\lim_{x \to (-5.8)-} f(x) = -6.) & .5 = (\lim_{x \to (-5.8)+} f(x) = -6.) & .6 = (\lim_{x \to (-5.8)} f(x) = -6.) \end{bmatrix}$$

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Limit03 Answers for No.9911

$$Ans1 = \left[\begin{array}{ccc} .1 = (\lim_{x\to 2} 3x^3 + x^2 = 28) & .2 = (\lim_{x\to 1} (x^3 - 4x)(x+4) = -15) & .3 = \left(\lim_{x\to 1} \frac{x-1}{2x^2+4x} = 0\right) \\ .4 = \left(\lim_{x\to 100} \frac{100-x}{\sqrt{x}-10} = -20\right) & .5 = \left(\lim_{x\to 4} \frac{x-4}{3-\sqrt{x+5}} = -6\right) & .6 = (\lim_{x\to 3} \sqrt{2-x} = \mathit{undefined}) \\ .7 = (\lim_{x\to 3} |x+2| = 5) & .8 = \left(\lim_{x\to 2} \frac{x-2}{|x-2|} = \mathit{undefined}\right) & .9 = \left(\lim_{x\to 4+} \frac{|x^2-3x-4|}{x-4} = 5\right) \\ .10 = \left(\lim_{x\to 0+} \frac{2}{|x|} - \frac{2}{x} = 0\right) & .11 = \left(\lim_{x\to (4/3)} \frac{|3x-4|}{3x^2-19x+20} = \mathit{undefined}\right) & \mathit{Math@MUT} \end{array}\right], \left[\begin{array}{c} \underline{:(} \\ :) \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \underline{:)} \\ :'(\end{array}\right]$$

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

$$Ans3 = \left[\begin{array}{ccc} .1 = (\lim_{x\to 5-} f(x) = 4) & .2 = (\lim_{x\to 5+} f(x) = 5) & .3 = (\lim_{x\to 5} f(x) = \mathit{undefined}) \\ .4 = (\lim_{x\to (-4.7)-} f(x) = -5.) & .5 = (\lim_{x\to (-4.7)+} f(x) = -5.) & .6 = (\lim_{x\to (-4.7)} f(x) = -5.) \end{array}\right]$$

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Limit03 Answers for No.10027

$$Ans1 = \left[\begin{array}{ccc} .1 = (\lim_{x \to 3} 5x^3 + 3x^2 + 4x + 4 = 178) & .2 = (\lim_{x \to 2} (3x^3 - 3x^2 + 4x)(4x-3) = 100) & .3 = \left(\lim_{x \to 1} \frac{4x^3 + x^2 - 3x}{x-3} = -1\right) \\ .4 = \left(\lim_{x \to 16} \frac{x-16}{4-\sqrt{x}} = -8\right) & .5 = \left(\lim_{x \to 13} \frac{x-13}{\sqrt{x-4}-3} = 6\right) & .6 = (\lim_{x \to 1} \sqrt{x-3} = undefined) \\ .7 = (\lim_{x \to (-1)} |x-1| = 2) & .8 = \left(\lim_{x \to 3} \frac{3-x}{|x-3|} = undefined\right) & .9 = \left(\lim_{x \to 5+} \frac{|x^2-2x-15|}{x-5} = 8\right) \\ .10 = \left(\lim_{x \to 0+} \frac{4}{x} - \frac{4}{|x|} = 0\right) & .11 = \left(\lim_{x \to (2/5)} \frac{15x^2 - 11x + 2}{|5x-2|} = undefined\right) & Math@MUT \end{array}\right], \left[\begin{array}{c} \underline{:(} \\ :) \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \underline{:)} \\ :'(\end{array}\right]$$

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

$$Ans3 = \left[\begin{array}{ccc} .1 = (\lim_{x \to 4-} f(x) = 3) & .2 = (\lim_{x \to 4+} f(x) = 4) & .3 = (\lim_{x \to 4} f(x) = undefined) \\ .4 = (\lim_{x \to (-4.6)-} f(x) = -5.) & .5 = (\lim_{x \to (-4.6)+} f(x) = -5.) & .6 = (\lim_{x \to (-4.6)} f(x) = -5.) \end{array}\right]$$

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Limit03 Answers for No.10063

$$Ans1 = \begin{bmatrix} .1 = (\lim_{x\to 1} 2x^3+2x^2-4x+1 = 1) & .2 = (\lim_{x\to 3} (3x^2-x+3)(2x^2+2x) = 648) & .3 = \left(\lim_{x\to 3} \frac{x^3+4x^2}{5x-4} = \frac{63}{11}\right) \\ .4 = \left(\lim_{x\to 25} \frac{x-25}{5-\sqrt{x}} = -10\right) & .5 = \left(\lim_{x\to 11} \frac{x-11}{4-\sqrt{x+5}} = -8\right) & .6 = (\lim_{x\to 1} \sqrt{x-2} = undefined) \\ .7 = (\lim_{x\to 1} |x+2| = 3) & .8 = \left(\lim_{x\to 2} \frac{|x-2|}{2-x} = undefined\right) & .9 = \left(\lim_{x\to 1-} \frac{|x^2+4x-5|}{x-1} = -6\right) \\ .10 = \left(\lim_{x\to 0-} \frac{2}{x}+\frac{2}{|x|} = 0\right) & .11 = \left(\lim_{x\to (4/5)} \frac{|5x-4|}{20x^2-21x+4} = undefined\right) & Math@MUT \end{bmatrix}, \begin{bmatrix} \underline{:(} \\ :) \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \underline{:)} \\ :'(\end{bmatrix}$$

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

$$Ans3 = \begin{bmatrix} .1 = (\lim_{x\to 5-} f(x) = 4) & .2 = (\lim_{x\to 5+} f(x) = 5) & .3 = (\lim_{x\to 5} f(x) = undefined) \\ .4 = (\lim_{x\to (-2.1)-} f(x) = -3.) & .5 = (\lim_{x\to (-2.1)+} f(x) = -3.) & .6 = (\lim_{x\to (-2.1)} f(x) = -3.) \end{bmatrix}$$

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Limit03 Answers for No.10120

$$Ans1 = \left[\begin{array}{ccc} .1 = (\lim_{x\to 1} 5x^2+2=7) & .2 = (\lim_{x\to 2} (x^2+x+2)(2x^2+2x+1)=104) & .3 = \left(\lim_{x\to 1} \frac{2x-2}{3x^2-x+1}=0\right) \\ .4 = \left(\lim_{x\to 4} \frac{4-x}{2-\sqrt{x}}=4\right) & .5 = \left(\lim_{x\to 14} \frac{4-\sqrt{x+2}}{x-14}=\frac{-1}{8}\right) & .6 = (\lim_{x\to 3} \sqrt{x-2}=1) \\ .7 = (\lim_{x\to(-1)} |x+2|=1) & .8 = \left(\lim_{x\to 1} \frac{x-1}{|x-1|}=\mathit{undefined}\right) & .9 = \left(\lim_{x\to 4-} \frac{|x^2-9x+20|}{x-4}=-1\right) \\ .10 = \left(\lim_{x\to 0-} \frac{4}{|x|}-\frac{4}{x}=\infty\right) & .11 = \left(\lim_{x\to(3/4)} \frac{4x^2+17x-15}{|4x-3|}=\mathit{undefined}\right) & \mathit{Math@MUT} \end{array}\right], \left[\begin{array}{c} \frac{:(}{:)} \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \frac{:)}{:'(} \end{array}\right]$$

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

$$Ans3 = \left[\begin{array}{ccc} .1 = (\lim_{x\to 4-} f(x)=3) & .2 = (\lim_{x\to 4+} f(x)=4) & .3 = (\lim_{x\to 4} f(x)=\mathit{undefined}) \\ .4 = (\lim_{x\to(-5.3)-} f(x)=-6.) & .5 = (\lim_{x\to(-5.3)+} f(x)=-6.) & .6 = (\lim_{x\to(-5.3)} f(x)=-6.) \end{array}\right]$$

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Limit03 Answers for No.10367

$$Ans1 = \begin{bmatrix} .1 = (\lim_{x\to 3} 4x^3 + x^2 - 4x = 105) & .2 = (\lim_{x\to 2} (x-1)(4x^3+4x^2-2x) = 44) & .3 = \left(\lim_{x\to 2} \frac{3x^3-2x^2}{x-1} = 16\right) \\ .4 = \left(\lim_{x\to 4} \frac{x-4}{2-\sqrt{x}} = -4\right) & .5 = \left(\lim_{x\to 15} \frac{15-x}{4-\sqrt{x+1}} = 8\right) & .6 = (\lim_{x\to 2} \sqrt{3-x} = 1) \\ .7 = (\lim_{x\to (-3)} |x+3| = 0) & .8 = \left(\lim_{x\to 2} \frac{x-2}{|x-2|} = undefined\right) & .9 = \left(\lim_{x\to 2+} \frac{x-2}{|x^2-6x+8|} = \frac{1}{2}\right) \\ .10 = \left(\lim_{x\to 0-} \frac{3}{x} - \frac{3}{|x|} = -\infty\right) & .11 = \left(\lim_{x\to (2/3)} \frac{12x^2+x-6}{|3x-2|} = undefined\right) & Math@MUT \end{bmatrix}, \begin{bmatrix} \frac{:(}{:)} \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \frac{:)}{:'(} \end{bmatrix}$$

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

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

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Limit03 Answers for No.10372

$$Ans1 = \begin{bmatrix} .1 = (\lim_{x\to 1} 5x^2+3x-3 = 5) & .2 = (\lim_{x\to 2} (3x^3+3x^2+4x)(4x+3) = 484) & .3 = \left(\lim_{x\to 3} \frac{2x^2+3}{x+3} = \frac{7}{2}\right) \\ .4 = \left(\lim_{x\to 16} \frac{\sqrt{x}-4}{16-x} = \frac{-1}{8}\right) & .5 = \left(\lim_{x\to(-3)} \frac{1-\sqrt{x+4}}{x+3} = \frac{-1}{2}\right) & .6 = (\lim_{x\to 1} \sqrt{1-x} = undefined) \\ .7 = (\lim_{x\to(-1)} |x+2| = 1) & .8 = \left(\lim_{x\to 1} \frac{1-x}{|x-1|} = undefined\right) & .9 = \left(\lim_{x\to 3+} \frac{x-3}{|x^2+x-12|} = \frac{1}{7}\right) \\ .10 = \left(\lim_{x\to 0-} \frac{2}{|x|} - \frac{2}{x} = \infty\right) & .11 = \left(\lim_{x\to(4/5)} \frac{20x^2-x-12}{|5x-4|} = undefined\right) & Math@MUT \end{bmatrix}, \begin{bmatrix} \frac{:(}{\;} \\ :) \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \frac{:)}{:'(} \end{bmatrix}$$

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

$$Ans3 = \begin{bmatrix} .1 = (\lim_{x\to 3-} f(x) = 3) & .2 = (\lim_{x\to 3+} f(x) = 4) & .3 = (\lim_{x\to 3} f(x) = undefined) \\ .4 = (\lim_{x\to(-4.8)-} f(x) = -4.) & .5 = (\lim_{x\to(-4.8)+} f(x) = -4.) & .6 = (\lim_{x\to(-4.8)} f(x) = -4.) \end{bmatrix}$$

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Limit03 Answers for No.10375

$$Ans1 = \left[\begin{array}{ccc} .1 = (\lim_{x\to 1} 3x^2+3x+1 = 7) & .2 = (\lim_{x\to 3} (5x-4)(x^2-4) = 55) & .3 = \left(\lim_{x\to 4} \frac{2x^2-2x+2}{3x^2-x+2} = \frac{13}{23}\right) \\ .4 = \left(\lim_{x\to 4} \frac{4-x}{2-\sqrt{x}} = 4\right) & .5 = \left(\lim_{x\to 11} \frac{\sqrt{x-2}-3}{x-11} = \frac{1}{6}\right) & .6 = (\lim_{x\to 2} \sqrt{x-3} = undefined) \\ .7 = (\lim_{x\to (-1)} |x+3| = 2) & .8 = \left(\lim_{x\to 2} \frac{|x-2|}{2-x} = undefined\right) & .9 = \left(\lim_{x\to 1-} \frac{|x^2-4x+3|}{x-1} = -2\right) \\ .10 = \left(\lim_{x\to 0-} \frac{2}{x} - \frac{2}{|x|} = -\infty\right) & .11 = \left(\lim_{x\to (4/5)} \frac{15x^2-2x-8}{|5x-4|} = undefined\right) & Math@MUT \end{array}\right], \left[\begin{array}{c} \underline{:(} \\ :) \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \underline{:)} \\ :'(\end{array}\right]$$

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

$$Ans3 = \left[\begin{array}{ccc} .1 = (\lim_{x\to 5-} f(x) = 5) & .2 = (\lim_{x\to 5+} f(x) = 6) & .3 = (\lim_{x\to 5} f(x) = undefined) \\ .4 = (\lim_{x\to (-5.6)-} f(x) = -5.) & .5 = (\lim_{x\to (-5.6)+} f(x) = -5.) & .6 = (\lim_{x\to (-5.6)} f(x) = -5.) \end{array}\right]$$

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Limit03 Answers for No.10426

$$Ans1 = \begin{bmatrix} .1 = (\lim_{x\to 2} x^3 + x^2 + 3x - 2 = 16) & .2 = (\lim_{x\to 2} (x-4)(5x^2 - x + 1) = \text{-}38) & .3 = \left(\lim_{x\to 2} \frac{2x-2}{2x^3 - 3x^2 + 3x} = \frac{1}{5}\right) \\ .4 = \left(\lim_{x\to 16} \frac{x-16}{4-\sqrt{x}} = \text{-}8\right) & .5 = \left(\lim_{x\to 3} \frac{x-3}{\sqrt{x-2}-1} = 2\right) & .6 = (\lim_{x\to 3} \sqrt{2-x} = \mathit{undefined}) \\ .7 = (\lim_{x\to(\text{-}2)} |x-2| = 4) & .8 = \left(\lim_{x\to 3} \frac{3-x}{|x-3|} = \mathit{undefined}\right) & .9 = \left(\lim_{x\to 5\text{-}} \frac{x-5}{|x^2-x-20|} = \frac{\text{-}1}{9}\right) \\ .10 = \left(\lim_{x\to 0+} \frac{1}{x} - \frac{1}{|x|} = 0\right) & .11 = \left(\lim_{x\to(1/4)} \frac{|4x-1|}{4x^2 - 21x + 5} = \mathit{undefined}\right) & Math@MUT \end{bmatrix}, \begin{bmatrix} \underline{:(} \\ :) \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \underline{:)} \\ :'(\end{bmatrix}$$

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

$$Ans3 = \begin{bmatrix} .1 = (\lim_{x\to 4\text{-}} f(x) = 4) & .2 = (\lim_{x\to 4+} f(x) = 5) & .3 = (\lim_{x\to 4} f(x) = \mathit{undefined}) \\ .4 = (\lim_{x\to(\text{-}4.7)\text{-}} f(x) = \text{-}4.) & .5 = (\lim_{x\to(\text{-}4.7)+} f(x) = \text{-}4.) & .6 = (\lim_{x\to(\text{-}4.7)} f(x) = \text{-}4.) \end{bmatrix}$$

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Limit03 Answers for No.10628

$$Ans1 = \left[\begin{array}{ccc} .1 = (\lim_{x\to 2} 2x^2+1 = 9) & .2 = (\lim_{x\to 3} (3x^2+3x-4)(4x+1) = 416) & .3 = \left(\lim_{x\to 2} \frac{4x-3}{5x^3+4x^2+x} = \frac{5}{58}\right) \\ .4 = \left(\lim_{x\to 25} \frac{\sqrt{x}-5}{25-x} = \frac{-1}{10}\right) & .5 = \left(\lim_{x\to(-4)} \frac{x+4}{1-\sqrt{x+5}} = -2\right) & .6 = (\lim_{x\to 2} \sqrt{1-x} = undefined) \\ .7 = (\lim_{x\to(-1)} |x+1| = 0) & .8 = \left(\lim_{x\to 1} \frac{x-1}{|x-1|} = undefined\right) & .9 = \left(\lim_{x\to 2-} \frac{|x^2-x-2|}{x-2} = -3\right) \\ .10 = \left(\lim_{x\to 0+} \frac{1}{x} - \frac{1}{|x|} = 0\right) & .11 = \left(\lim_{x\to(4/3)} \frac{12x^2-19x+4}{|3x-4|} = undefined\right) & Math@MUT \end{array}\right], \left[\begin{array}{c} \underline{:(} \\ :) \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \underline{:)} \\ :'(\end{array}\right]$$

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

$$Ans3 = \left[\begin{array}{ccc} .1 = (\lim_{x\to 4-} f(x) = 3) & .2 = (\lim_{x\to 4+} f(x) = 4) & .3 = (\lim_{x\to 4} f(x) = undefined) \\ .4 = (\lim_{x\to(-2.3)-} f(x) = -3.) & .5 = (\lim_{x\to(-2.3)+} f(x) = -3.) & .6 = (\lim_{x\to(-2.3)} f(x) = -3.) \end{array}\right]$$

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Limit03 Answers for No.11408

$$Ans1 = \left[\begin{array}{ccc} .1 = (\lim_{x\to 2} 5x^2+2 = 22) & .2 = (\lim_{x\to 2} (5x^3-2)(x+3) = 190) & .3 = \left(\lim_{x\to 2} \frac{x+2}{3x^2-3x} = \frac{2}{3}\right) \\ .4 = \left(\lim_{x\to 81} \frac{x-81}{9-\sqrt{x}} = -18\right) & .5 = \left(\lim_{x\to 29} \frac{29-x}{\sqrt{x-4}-5} = -10\right) & .6 = (\lim_{x\to 2} \sqrt{1-x} = undefined) \\ .7 = (\lim_{x\to 2} |x+3| = 5) & .8 = \left(\lim_{x\to 2} \frac{2-x}{|x-2|} = undefined\right) & .9 = \left(\lim_{x\to 3-} \frac{x-3}{|x^2-2x-3|} = \frac{-1}{4}\right) \\ .10 = \left(\lim_{x\to 0+} \frac{5}{|x|} - \frac{5}{x} = 0\right) & .11 = \left(\lim_{x\to (5/6)} \frac{|6x-5|}{6x^2-23x+15} = undefined\right) & Math@MUT \end{array}\right], \left[\begin{array}{c} \frac{:(}{:)} \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \frac{:)}{:'(} \end{array}\right]$$

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

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

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Limit03 Answers for No.11560

$$Ans1 = \begin{bmatrix} .1 = (\lim_{x \to 2} 3x^2 + 2 = 14) & .2 = (\lim_{x \to 2} (5x+1)(2x^3+2x-1) = 209) & .3 = \left(\lim_{x \to 1} \frac{3x^2-2x-4}{3x^2-x-4} = \frac{3}{2}\right) \\ .4 = \left(\lim_{x \to 4} \frac{2-\sqrt{x}}{x-4} = \frac{-1}{4}\right) & .5 = \left(\lim_{x \to 29} \frac{x-29}{\sqrt{x-4}-5} = 10\right) & .6 = (\lim_{x \to 2} \sqrt{2-x} = undefined) \\ .7 = (\lim_{x \to (-2)} |x-3| = 5) & .8 = \left(\lim_{x \to 1} \frac{1-x}{|x-1|} = undefined\right) & .9 = \left(\lim_{x \to 2+} \frac{x-2}{|x^2+x-6|} = \frac{1}{5}\right) \\ .10 = \left(\lim_{x \to 0-} \frac{4}{x} - \frac{4}{|x|} = -\infty\right) & .11 = \left(\lim_{x \to (1/5)} \frac{10x^2-17x+3}{|5x-1|} = undefined\right) & Math@MUT \end{bmatrix}, \begin{bmatrix} \frac{:(}{:)} \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \frac{:)}{:'(} \end{bmatrix}$$

$$Ans2 = \begin{bmatrix} .1 = [\lim_{x \to 0-} f(x) = -3, \lim_{x \to 0+} f(x) = 3, \lim_{x \to 0} f(x) = undefined] \\ .2 = [\lim_{x \to 0-} g(x) = 5, \lim_{x \to 0+} g(x) = 5, \lim_{x \to 0} g(x) = 5] \\ .3 = \begin{bmatrix} \lim_{x \to 0+} f(x) + g(x) = 8 & \lim_{x \to 0+} f(x) - g(x) = -2 & \lim_{x \to 0-} f(x)\,g(x) = -15 \\ \lim_{x \to 0-} \frac{f(x)}{g(x)} = \frac{-3}{5} & \lim_{x \to 0} f(x)\,g(x) = undefined & Math@MUT \end{bmatrix} \end{bmatrix}$$

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

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Limit03 Answers for No.11806

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

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

$$Ans3 = \left[\begin{array}{lll} .1 = (\lim_{x\to 4-} f(x) = 3) & .2 = (\lim_{x\to 4+} f(x) = 4) & .3 = (\lim_{x\to 4} f(x) = undefined) \\ .4 = (\lim_{x\to(-3.4)-} f(x) = -4.) & .5 = (\lim_{x\to(-3.4)+} f(x) = -4.) & .6 = (\lim_{x\to(-3.4)} f(x) = -4.) \end{array}\right]$$

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Limit03 Answers for No.12219

$$Ans1 = \left[\begin{array}{ccc} .1 = (\lim_{x\to 3} 4x^3+3x^2-3x-1 = 125) & .2 = (\lim_{x\to 2} (4x^3+x^2-3x)(2x+3) = 210) & .3 = \left(\lim_{x\to 3} \frac{2x-4}{5x^2+2x+1} = \frac{1}{26}\right) \\ .4 = \left(\lim_{x\to 64} \frac{\sqrt{x}-8}{64-x} = \frac{-1}{16}\right) & .5 = \left(\lim_{x\to 21} \frac{x-21}{5-\sqrt{x+4}} = -10\right) & .6 = (\lim_{x\to 1} \sqrt{x-2} = undefined) \\ .7 = (\lim_{x\to 3} |x-1| = 2) & .8 = \left(\lim_{x\to 3} \frac{|x-3|}{3-x} = undefined\right) & .9 = \left(\lim_{x\to 5-} \frac{|x^2-7x+10|}{x-5} = -3\right) \\ .10 = \left(\lim_{x\to 0-} \frac{2}{|x|} - \frac{2}{x} = \infty\right) & .11 = \left(\lim_{x\to (5/3)} \frac{15x^2-37x+20}{|3x-5|} = undefined\right) & Math@MUT \end{array}\right], \left[\begin{array}{c} :(\\ :) \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ :) \\ :'(\end{array}\right]$$

$$Ans2 = \left[\begin{array}{c} .1 = [\lim_{x\to 0-} f(x) = -3, \lim_{x\to 0+} f(x) = 3, \lim_{x\to 0} f(x) = undefined] \\ .2 = [\lim_{x\to 0-} g(x) = -5, \lim_{x\to 0+} g(x) = -5, \lim_{x\to 0} g(x) = -5] \\ .3 = \left[\begin{array}{ccc} \lim_{x\to 0-} f(x)+g(x) = -8 & \lim_{x\to 0+} f(x)-g(x) = 8 & \lim_{x\to 0-} f(x)\,g(x) = 15 \\ \lim_{x\to 0+} \frac{f(x)}{g(x)} = \frac{-3}{5} & \lim_{x\to 0} f(x)\,g(x) = undefined & Math@MUT \end{array}\right] \end{array}\right]$$

$$Ans3 = \left[\begin{array}{ccc} .1 = (\lim_{x\to 2-} f(x) = 2) & .2 = (\lim_{x\to 2+} f(x) = 3) & .3 = (\lim_{x\to 2} f(x) = undefined) \\ .4 = (\lim_{x\to (-5.4)-} f(x) = -5.) & .5 = (\lim_{x\to (-5.4)+} f(x) = -5.) & .6 = (\lim_{x\to (-5.4)} f(x) = -5.) \end{array}\right]$$

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Limit03 Answers for No.12954

$$Ans1 = \left[\begin{array}{ccc} .1 = (\lim_{x\to 3} 4x^3+3x^2-3x+4 = 130) & .2 = (\lim_{x\to 2} (5x^2-4x-3)(5x^2-2x+3) = 171) & .3 = \left(\lim_{x\to 2} \frac{x-4}{5x^2-4x+2} = \frac{-1}{7}\right) \\ .4 = \left(\lim_{x\to 100} \frac{x-100}{10-\sqrt{x}} = -20\right) & .5 = \left(\lim_{x\to 8} \frac{8-x}{3-\sqrt{x+1}} = 6\right) & .6 = (\lim_{x\to 2} \sqrt{x-3} = \mathit{undefined}) \\ .7 = (\lim_{x\to 2} |x-2| = 0) & .8 = \left(\lim_{x\to 2} \frac{|x-2|}{x-2} = \mathit{undefined}\right) & .9 = \left(\lim_{x\to 1-} \frac{x-1}{|x^2+3x-4|} = \frac{-1}{5}\right) \\ .10 = \left(\lim_{x\to 0-} \frac{2}{|x|} - \frac{2}{x} = \infty\right) & .11 = \left(\lim_{x\to (1/3)} \frac{6x^2+13x-5}{|3x-1|} = \mathit{undefined}\right) & \mathit{Math@MUT} \end{array}\right], \left[\begin{array}{c} \underline{:(} \\ :) \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \underline{:)} \\ :'(\end{array}\right]$$

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

$$Ans3 = \left[\begin{array}{ccc} .1 = (\lim_{x\to 4-} f(x) = 3) & .2 = (\lim_{x\to 4+} f(x) = 4) & .3 = (\lim_{x\to 4} f(x) = \mathit{undefined}) \\ .4 = (\lim_{x\to (-3.4)-} f(x) = -4.) & .5 = (\lim_{x\to (-3.4)+} f(x) = -4.) & .6 = (\lim_{x\to (-3.4)} f(x) = -4.) \end{array}\right]$$

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Limit03 Answers for No.12964

$$Ans1 = \left[\begin{array}{ccc} .1 = (\lim_{x\to 1} 2x^3+4x^2+2x = 8) & .2 = (\lim_{x\to 3} (x^2+x-4)(2x-2) = 32) & .3 = \left(\lim_{x\to 1} \frac{2x^3+3x^2+3x}{4x+1} = \frac{8}{5}\right) \\ .4 = \left(\lim_{x\to 49} \frac{x-49}{\sqrt{x}-7} = 14\right) & .5 = \left(\lim_{x\to 29} \frac{\sqrt{x-4}-5}{29-x} = \frac{-1}{10}\right) & .6 = (\lim_{x\to 3} \sqrt{1-x} = undefined) \\ .7 = (\lim_{x\to(-2)} |x-2| = 4) & .8 = \left(\lim_{x\to 3} \frac{3-x}{|x-3|} = undefined\right) & .9 = \left(\lim_{x\to 3+} \frac{|x^2-5x+6|}{x-3} = 1\right) \\ .10 = \left(\lim_{x\to 0-} \frac{1}{x} - \frac{1}{|x|} = -\infty\right) & .11 = \left(\lim_{x\to(2/5)} \frac{|5x-2|}{15x^2+14x-8} = undefined\right) & Math@MUT \end{array}\right], \left[\begin{array}{c} \underline{:(} \\ :) \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \underline{:)} \\ :'(\end{array}\right]$$

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

$$Ans3 = \left[\begin{array}{ccc} .1 = (\lim_{x\to 1-} f(x) = 1) & .2 = (\lim_{x\to 1+} f(x) = 2) & .3 = (\lim_{x\to 1} f(x) = undefined) \\ .4 = (\lim_{x\to(-5.2)-} f(x) = -5.) & .5 = (\lim_{x\to(-5.2)+} f(x) = -5.) & .6 = (\lim_{x\to(-5.2)} f(x) = -5.) \end{array}\right]$$

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Limit03 Answers for No.12971

$$Ans1 = \left[\begin{array}{ccc} .1 = (\lim_{x\to 2} 4x^3 - 2x^2 + 2x = 28) & .2 = (\lim_{x\to 3} (x^2+3x-2)(x-2) = 16) & .3 = \left(\lim_{x\to 4} \frac{2x^2+x+4}{2x^2-2x-3} = \frac{40}{21}\right) \\ .4 = \left(\lim_{x\to 9} \frac{3-\sqrt{x}}{x-9} = \frac{-1}{6}\right) & .5 = \left(\lim_{x\to 7} \frac{7-x}{3-\sqrt{x+2}} = 6\right) & .6 = (\lim_{x\to 3} \sqrt{2-x} = undefined) \\ .7 = (\lim_{x\to 2} |x-3| = 1) & .8 = \left(\lim_{x\to 3} \frac{|x-3|}{x-3} = undefined\right) & .9 = \left(\lim_{x\to 3-} \frac{x-3}{|x^2-4x+3|} = \frac{-1}{2}\right) \\ .10 = \left(\lim_{x\to 0+} \frac{2}{|x|} - \frac{2}{x} = 0\right) & .11 = \left(\lim_{x\to (2/5)} \frac{5x^2-22x+8}{|5x-2|} = undefined\right) & Math@MUT \end{array}\right], \left[\begin{array}{c} \frac{:(}{:)} \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \frac{:)}{:'(} \end{array}\right]$$

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

$$Ans3 = \left[\begin{array}{ccc} .1 = (\lim_{x\to 2-} f(x) = 1) & .2 = (\lim_{x\to 2+} f(x) = 2) & .3 = (\lim_{x\to 2} f(x) = undefined) \\ .4 = (\lim_{x\to (-1.8)-} f(x) = -2.) & .5 = (\lim_{x\to (-1.8)+} f(x) = -2.) & .6 = (\lim_{x\to (-1.8)} f(x) = -2.) \end{array}\right]$$

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Limit03 Answers for No.13023

$$Ans1 = \left[\begin{array}{ccc} .1 = (\lim_{x\to 3} 5x^3 - 2x^2 - 2x = 111) & .2 = (\lim_{x\to 1} (x+3)(4x^2+2x+2) = 32) & .3 = \left(\lim_{x\to 3} \frac{2x+3}{4x^3-2x} = \frac{3}{34}\right) \\ .4 = \left(\lim_{x\to 1} \frac{1-\sqrt{x}}{x-1} = \frac{-1}{2}\right) & .5 = \left(\lim_{x\to(-4)} \frac{-4-x}{1-\sqrt{x+5}} = 2\right) & .6 = (\lim_{x\to 1} \sqrt{3-x} = \sqrt{2}) \\ .7 = (\lim_{x\to(-1)} |x-1| = 2) & .8 = \left(\lim_{x\to 3} \frac{|x-3|}{3-x} = undefined\right) & .9 = \left(\lim_{x\to 1+} \frac{x-1}{|x^2-3x+2|} = 1\right) \\ .10 = \left(\lim_{x\to 0-} \frac{1}{x} - \frac{1}{|x|} = -\infty\right) & .11 = \left(\lim_{x\to(5/4)} \frac{12x^2-23x+10}{|4x-5|} = undefined\right) & Math@MUT \end{array}\right], \left[\begin{array}{c} \underline{:(} \\ :) \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \underline{:)} \\ :'(\end{array}\right]$$

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

$$Ans3 = \left[\begin{array}{ccc} .1 = (\lim_{x\to 1-} f(x) = 1) & .2 = (\lim_{x\to 1+} f(x) = 2) & .3 = (\lim_{x\to 1} f(x) = undefined) \\ .4 = (\lim_{x\to(-1.2)-} f(x) = -1.) & .5 = (\lim_{x\to(-1.2)+} f(x) = -1.) & .6 = (\lim_{x\to(-1.2)} f(x) = -1.) \end{array}\right]$$

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Limit03 Answers for No.13033

$$Ans1 = \left[\begin{array}{ccc} .1 = (\lim_{x\to 3} x^2 - x = 6) & .2 = (\lim_{x\to 2} (3x^2-4)(x^2+4x) = 96) & .3 = \left(\lim_{x\to 3} \frac{5x^3+3x^2+2x}{4x-2} = \frac{84}{5}\right) \\ .4 = \left(\lim_{x\to 9} \frac{3-\sqrt{x}}{x-9} = \frac{-1}{6}\right) & .5 = \left(\lim_{x\to 8} \frac{3-\sqrt{x+1}}{8-x} = \frac{1}{6}\right) & .6 = (\lim_{x\to 1} \sqrt{1-x} = undefined) \\ .7 = (\lim_{x\to 2} |x-2| = 0) & .8 = \left(\lim_{x\to 2} \frac{|x-2|}{2-x} = undefined\right) & .9 = \left(\lim_{x\to 1-} \frac{|x^2-3x+2|}{x-1} = -1\right) \\ .10 = \left(\lim_{x\to 0-} \frac{1}{x} - \frac{1}{|x|} = -\infty\right) & .11 = \left(\lim_{x\to (3/2)} \frac{|2x-3|}{10x^2-13x-3} = undefined\right) & Math@MUT \end{array}\right], \left[\begin{array}{c} \underline{:(} \\ :) \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \underline{:)} \\ :'(\end{array}\right]$$

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

$$Ans3 = \left[\begin{array}{ccc} .1 = (\lim_{x\to 1-} f(x) = 0) & .2 = (\lim_{x\to 1+} f(x) = 1) & .3 = (\lim_{x\to 1} f(x) = undefined) \\ .4 = (\lim_{x\to (-2.2)-} f(x) = -3.) & .5 = (\lim_{x\to (-2.2)+} f(x) = -3.) & .6 = (\lim_{x\to (-2.2)} f(x) = -3.) \end{array}\right]$$

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Limit03 Answers for No.13197

$$Ans1 = \left[\begin{array}{ccc} .1 = (\lim_{x\to 1} 4x^3+3x^2-4x-1 = 2) & .2 = (\lim_{x\to 1} (5x^2+x+3)(2x^2-1) = 9) & .3 = \left(\lim_{x\to 3} \frac{5x^3+x^2-3x}{2x-4} = \frac{135}{2}\right) \\ .4 = \left(\lim_{x\to 25} \frac{25-x}{5-\sqrt{x}} = 10\right) & .5 = \left(\lim_{x\to 11} \frac{x-11}{\sqrt{x-2}-3} = 6\right) & .6 = (\lim_{x\to 2} \sqrt{2-x} = undefined) \\ .7 = (\lim_{x\to 2} |x-1| = 1) & .8 = \left(\lim_{x\to 1} \frac{1-x}{|x-1|} = undefined\right) & .9 = \left(\lim_{x\to 3+} \frac{|x^2-5x+6|}{x-3} = 1\right) \\ .10 = \left(\lim_{x\to 0+} \frac{5}{|x|} - \frac{5}{x} = 0\right) & .11 = \left(\lim_{x\to (5/4)} \frac{|4x-5|}{12x^2-23x+10} = undefined\right) & Math@MUT \end{array}\right], \left[\begin{array}{c} :(\\ :) \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ :) \\ :'(\end{array}\right]$$

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

$$Ans3 = \left[\begin{array}{ccc} .1 = (\lim_{x\to 5-} f(x) = 4) & .2 = (\lim_{x\to 5+} f(x) = 5) & .3 = (\lim_{x\to 5} f(x) = undefined) \\ .4 = (\lim_{x\to (-1.1)-} f(x) = -2.) & .5 = (\lim_{x\to (-1.1)+} f(x) = -2.) & .6 = (\lim_{x\to (-1.1)} f(x) = -2.) \end{array}\right]$$

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Limit03 Answers for No.13907

$$Ans1 = \left[\begin{array}{ccc} .1 = (\lim_{x \to 2} 2x^3 + 3x = 22) & .2 = (\lim_{x \to 1} (x+3)(x^2+1) = 8) & .3 = \left(\lim_{x \to 2} \frac{3x^2+2x+4}{3x^2+x+3} = \frac{20}{17}\right) \\ .4 = \left(\lim_{x \to 49} \frac{\sqrt{x}-7}{x-49} = \frac{1}{14}\right) & .5 = \left(\lim_{x \to 3} \frac{3-x}{2-\sqrt{x+1}} = 4\right) & .6 = (\lim_{x \to 1} \sqrt{x-2} = undefined) \\ .7 = (\lim_{x \to (-2)} |x-3| = 5) & .8 = \left(\lim_{x \to 2} \frac{2-x}{|x-2|} = undefined\right) & .9 = \left(\lim_{x \to 3+} \frac{|x^2-2x-3|}{x-3} = 4\right) \\ .10 = \left(\lim_{x \to 0-} \frac{2}{x} - \frac{2}{|x|} = -\infty\right) & .11 = \left(\lim_{x \to (1/2)} \frac{|2x-1|}{6x^2+x-2} = undefined\right) & Math@MUT \end{array}\right], \left[\begin{array}{c} \underline{:(} \\ :) \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \underline{:)} \\ :'(\end{array}\right]$$

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

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

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Limit03 Answers for No.13991

$$Ans1 = \left[\begin{array}{ccc} .1 = (\lim_{x\to 2} 4x^2+3x=22) & .2 = (\lim_{x\to 2} (2x-4)(5x^2+2x)=0) & .3 = \left(\lim_{x\to 4} \frac{x+3}{4x+2} = \frac{7}{18}\right) \\ .4 = \left(\lim_{x\to 9} \frac{9-x}{\sqrt{x}-3} = -6\right) & .5 = \left(\lim_{x\to 4} \frac{\sqrt{x-3}-1}{4-x} = \frac{-1}{2}\right) & .6 = (\lim_{x\to 3} \sqrt{x-2} = 1) \\ .7 = (\lim_{x\to(-1)} |x+3| = 2) & .8 = \left(\lim_{x\to 2} \frac{|x-2|}{x-2} = undefined\right) & .9 = \left(\lim_{x\to 4-} \frac{|x^2-16|}{x-4} = -8\right) \\ .10 = \left(\lim_{x\to 0-} \frac{5}{x} - \frac{5}{|x|} = -\infty\right) & .11 = \left(\lim_{x\to(2/5)} \frac{|5x-2|}{5x^2+18x-8} = undefined\right) & Math@MUT \end{array}\right], \left[\begin{array}{c} \underline{:(} \\ :) \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \underline{:)} \\ :'(\end{array}\right]$$

$$Ans2 = \left[\begin{array}{c} .1 = [\lim_{x\to 0-} f(x)=5, \lim_{x\to 0+} f(x)=5, \lim_{x\to 0} f(x)=5] \\ .2 = [\lim_{x\to 0-} g(x)=-3, \lim_{x\to 0+} g(x)=3, \lim_{x\to 0} g(x)=undefined] \\ .3 = \left[\begin{array}{ccc} \lim_{x\to 0+} f(x)+g(x)=8 & \lim_{x\to 0-} f(x)-g(x)=8 & \lim_{x\to 0+} f(x)\,g(x)=15 \\ \lim_{x\to 0-} \frac{f(x)}{g(x)} = \frac{-5}{3} & \lim_{x\to 0} \frac{f(x)}{g(x)} = undefined & Math@MUT \end{array}\right] \end{array}\right]$$

$$Ans3 = \left[\begin{array}{ccc} .1 = (\lim_{x\to 3-} f(x)=2) & .2 = (\lim_{x\to 3+} f(x)=3) & .3 = (\lim_{x\to 3} f(x)=undefined) \\ .4 = (\lim_{x\to(-4.8)-} f(x)=-5.) & .5 = (\lim_{x\to(-4.8)+} f(x)=-5.) & .6 = (\lim_{x\to(-4.8)} f(x)=-5.) \end{array}\right]$$

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Limit03 Answers for No.14005

$$Ans1 = \begin{bmatrix} .1 = (\lim_{x \to 2} 4x^3 + 3x^2 + 2x + 2 = 50) & .2 = (\lim_{x \to 1} (2x^3 + 4x^2 - x)(5x + 1) = 30) & .3 = \left(\lim_{x \to 1} \frac{x+4}{5x^3 - x^2 + 4} = \frac{5}{8}\right) \\ .4 = \left(\lim_{x \to 49} \frac{7 - \sqrt{x}}{49 - x} = \frac{1}{14}\right) & .5 = \left(\lim_{x \to 29} \frac{29 - x}{\sqrt{x - 4} - 5} = -10\right) & .6 = (\lim_{x \to 2} \sqrt{1 - x} = undefined) \\ .7 = (\lim_{x \to (-3)} |x - 3| = 6) & .8 = \left(\lim_{x \to 2} \frac{|x - 2|}{x - 2} = undefined\right) & .9 = \left(\lim_{x \to 3-} \frac{|x^2 + x - 12|}{x - 3} = -7\right) \\ .10 = \left(\lim_{x \to 0-} \frac{2}{|x|} - \frac{2}{x} = \infty\right) & .11 = \left(\lim_{x \to (1/2)} \frac{|2x - 1|}{10x^2 + x - 3} = undefined\right) & Math@MUT \end{bmatrix}, \begin{bmatrix} \frac{:(}{:)} \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \frac{:)}{:'(} \end{bmatrix}$$

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

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

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Limit03 Answers for No.14157

$$Ans1 = \left[\begin{array}{ccc} .1 = (\lim_{x\to 3} 3x^2+1 = 28) & .2 = (\lim_{x\to 2} (3x+1)(2x^2-2x+3) = 49) & .3 = \left(\lim_{x\to 2} \frac{4x^2+x+3}{2x-4} = undefined\right) \\ .4 = \left(\lim_{x\to 25} \frac{5-\sqrt{x}}{x-25} = \frac{-1}{10}\right) & .5 = \left(\lim_{x\to 23} \frac{x-23}{5-\sqrt{x+2}} = -10\right) & .6 = (\lim_{x\to 2} \sqrt{x-2} = undefined) \\ .7 = (\lim_{x\to(-2)} |x-2| = 4) & .8 = \left(\lim_{x\to 3} \frac{x-3}{|x-3|} = undefined\right) & .9 = \left(\lim_{x\to 5+} \frac{|x^2-9x+20|}{x-5} = 1\right) \\ .10 = \left(\lim_{x\to 0-} \frac{3}{x}+\frac{3}{|x|} = 0\right) & .11 = \left(\lim_{x\to(2/5)} \frac{|5x-2|}{10x^2-9x+2} = undefined\right) & Math@MUT \end{array}\right], \left[\begin{array}{c} \underline{:(} \\ :) \\ M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \\ \underline{:)} \\ :'(\end{array}\right]$$

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

$$Ans3 = \left[\begin{array}{ccc} .1 = (\lim_{x\to 3-} f(x) = 3) & .2 = (\lim_{x\to 3+} f(x) = 4) & .3 = (\lim_{x\to 3} f(x) = undefined) \\ .4 = (\lim_{x\to(-3.7)-} f(x) = -3.) & .5 = (\lim_{x\to(-3.7)+} f(x) = -3.) & .6 = (\lim_{x\to(-3.7)} f(x) = -3.) \end{array}\right]$$

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