Diff02 Answers for No.8765

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 6x + 5) \\ .2 = (f'(x) = 18x^2) \\ .3 = \left(f'(x) = -\frac{6}{x^2}\right) \\ .4 = \left(f'(x) = \frac{5}{2\sqrt{x}}\right) \end{bmatrix}, \quad , \quad Ans2 = \begin{bmatrix} .1 = (f'(3) = 135) \\ .2 = (f'(-2) = 1) \end{bmatrix}, \quad , \quad Ans4 = \begin{bmatrix} .1 = \left[f'(1) = \frac{9}{2}\right] \\ .2 = [f'(-2) = -1279] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 6x + 5) & .2 = (f'(x) = 18x^2) \\ .3 = (f'(x) = 30x^5 - 20x^4 + 2x + 5) & .4 = (f'(x) = x^3 - x) \\ .5 = \left(f'(x) = 4 - \frac{1}{2\sqrt{x}} + \frac{1}{x^{(3/2)}}\right) & .6 = \left(f'(x) = \frac{1}{5x^{(4/5)}} - \frac{4}{5x^{(9/5)}} - \frac{5}{4x^{(9/4)}} + \frac{5x^{(1/4)}}{4}\right) \\ .7 = (f'(x) = 24x^3 - 2x + 30x^2 - 5) & .8 = \left(f'(x) = -\frac{-3x + 10\sqrt{x} - 2}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = \frac{14}{(1+2x)^2}\right) & .10 = \left(f'(x) = \frac{9x^4 - 2}{2\sqrt{x}}\right) \\ .11 = \left(f'(x) = \frac{5x^5 - 15x^3 - 4x^2 - 24}{x^5}\right) & .12 = \left(f'(x) = \frac{-4x^5 - 4x^4 + 46x^3 + 90x^2}{(x+2)^2}\right) \end{bmatrix}, \quad , \quad \begin{bmatrix} \frac{:)}{:(} \\ \begin{bmatrix}\begin{bmatrix} P \\ V \\ S \\ S \end{bmatrix}\end{bmatrix} \\ \& \\ \begin{bmatrix}\begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}\end{bmatrix} \\ \frac{:)}{:(} \end{bmatrix}$$

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Diff02 Answers for No.8767

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 10\,x - 4) \\ .2 = (f'(x) = 6\,x^2) \\ .3 = \left(f'(x) = -\frac{3}{x^2}\right) \\ .4 = \left(f'(x) = \frac{2}{x^{(2/3)}}\right) \end{bmatrix}, \quad , Ans2 = \begin{bmatrix} .1 = (f'(3) = 108) \\ .2 = \left(f'(2) = \frac{-3}{4}\right) \end{bmatrix}, \quad , Ans4 = \begin{bmatrix} .1 = \left[f'(4) = \frac{97}{16}\right] \\ .2 = [f'(-2) = 2201] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 10\,x - 4) & .2 = (f'(x) = 6\,x^2) \\ .3 = (f'(x) = 35\,x^6 + 12\,x^3 + 15\,x^2 - 3) & .4 = \left(f'(x) = 2\,x^4 + \frac{2}{3}\,x\right) \\ .5 = \left(f'(x) = \frac{2}{\sqrt{x}} + 5 + \frac{1}{2\,x^{(3/2)}}\right) & .6 = \left(f'(x) = -\frac{3}{4\,x^{(7/4)}} + \frac{4\,x^{(1/3)}}{3} - \frac{1}{4\,x^{(5/4)}} - \frac{4}{3\,x^{(7/3)}}\right) \\ .7 = (f'(x) = 80\,x^3 + 42\,x^2 + 12\,x + 2) & .8 = \left(f'(x) = -\frac{-3\,x + 8\sqrt{x} - 3}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = -\frac{32}{(4 + 3\,x)^2}\right) & .10 = \left(f'(x) = \frac{x^{(7/2)}\,(65\,x^2 + 9)}{2}\right) \\ .11 = \left(f'(x) = \frac{3\,x^6 - 3\,x^4 - 15\,x^2 - 25}{x^6}\right) & .12 = \left(f'(x) = \frac{-20\,x^5 - 170\,x^4 - 300\,x^3 + x^2 + 10\,x + 15}{(x+5)^2}\right) \end{bmatrix}, \quad , \begin{bmatrix} \frac{:)}{:(} \\ \left[\left[\begin{matrix} P \\ V \\ S \\ S \end{matrix}\right]\right] \\ \& \\ \left[\left[\begin{matrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{matrix}\right]\right] \\ \frac{:)}{:(} \end{bmatrix}$$

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Diff02 Answers for No.8768

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 4x + 5) \\ .2 = (f'(x) = 6x^2) \\ .3 = \left(f'(x) = -\frac{3}{x^2}\right) \\ .4 = \left(f'(x) = \frac{2}{\sqrt{x}}\right) \end{bmatrix}, \quad , Ans2 = \begin{bmatrix} .1 = (f'(4) = 240) \\ .2 = \left(f'(2) = \frac{-3}{4}\right) \end{bmatrix}, \quad , Ans4 = \begin{bmatrix} .1 = [f'(-2) = 44] \\ .2 = \left[f'(4) = \frac{-1}{8}\right] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 4x + 5) & .2 = (f'(x) = 6x^2) \\ .3 = (f'(x) = 10x^4 + 16x^3 - 6x) & .4 = \left(f'(x) = \frac{4x^3}{3} + \frac{3}{2}\right) \\ .5 = \left(f'(x) = 1 - \frac{5}{2\sqrt{x}} + \frac{1}{x^{(3/2)}}\right) & .6 = \left(f'(x) = -\frac{1}{6x^{(7/6)}} - \frac{5}{6x^{(11/6)}} + \frac{1}{6x^{(5/6)}} - \frac{6}{5x^{(11/5)}}\right) \\ .7 = (f'(x) = 9x^2 - 12 + 6x) & .8 = \left(f'(x) = -\frac{-3x - 3 + 4\sqrt{x}}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = -\frac{16}{(3x-1)^2}\right) & .10 = \left(f'(x) = -\frac{x^{(3/2)}(-5 + 26x^4)}{2}\right) \\ .11 = \left(f'(x) = \frac{5x^6 - 15x^4 - 12x^2 - 60}{x^6}\right) & .12 = \left(f'(x) = \frac{12x^5 - 48x^4 - 180x^3 + 2x^2 - 20x - 30}{(x-5)^2}\right) \end{bmatrix}, \quad , \begin{bmatrix} \frac{:)}{:(} \\ \left[\left[\begin{matrix} P \\ V \\ S \\ S \end{matrix}\right]\right] \\ \& \\ \left[\left[\begin{matrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{matrix}\right]\right] \\ \frac{:)}{:(} \end{bmatrix}$$

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Diff02 Answers for No.8779

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 4x + 4) \\ .2 = (f'(x) = 15x^2) \\ .3 = \left(f'(x) = -\frac{5}{x^2}\right) \\ .4 = \left(f'(x) = \frac{1}{x^{(2/3)}}\right) \end{bmatrix}, \quad , \quad Ans2 = \begin{bmatrix} .1 = (f'(6) = 324) \\ .2 = \left(f'(-3) = \frac{4}{9}\right) \end{bmatrix}, \quad , \quad Ans4 = \begin{bmatrix} .1 = [f'(2) = 148] \\ .2 = [f'(4) = -3] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 4x + 4) & .2 = (f'(x) = 15x^2) \\ .3 = (f'(x) = 15x^4 - 4x^3 - 15x^2) & .4 = \left(f'(x) = \frac{9}{2}x^2 + x\right) \\ .5 = \left(f'(x) = \frac{1}{2\sqrt{x}} - \frac{2}{x^{(3/2)}} - 3\right) & .6 = \left(f'(x) = \frac{1}{6x^{(5/6)}} + \frac{6x^{(1/5)}}{5} - \frac{6}{5x^{(11/5)}} - \frac{5}{6x^{(11/6)}}\right) \\ .7 = (f'(x) = 12x^2 + 2x - 9) & .8 = \left(f'(x) = \frac{3x + 1 + 4\sqrt{x}}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = -\frac{21}{(3x-2)^2}\right) & .10 = \left(f'(x) = \frac{-4 + 15x^2}{2\sqrt{x}}\right) \\ .11 = \left(f'(x) = \frac{16x^7 - 4x^4 - 20x^3 - 25}{x^6}\right) & .12 = \left(f'(x) = \frac{20x^5 + 53x^4 - 24x^2}{(x+2)^2}\right) \end{bmatrix}, \quad , \quad \begin{bmatrix} \frac{:)}{:(} \\ \begin{bmatrix}\begin{bmatrix} P \\ V \\ S \\ S \end{bmatrix}\end{bmatrix} \\ \& \\ \begin{bmatrix}\begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}\end{bmatrix} \\ \frac{:)}{:(} \end{bmatrix}$$

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Diff02 Answers for No.9404

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 10x + 3) \\ .2 = (f'(x) = 18x^2) \\ .3 = \left(f'(x) = -\frac{4}{x^2}\right) \\ .4 = \left(f'(x) = \frac{2}{\sqrt{x}}\right) \end{bmatrix}, \quad Ans2 = \begin{bmatrix} .1 = (f'(3) = 108) \\ .2 = \left(f'(3) = \frac{-4}{9}\right) \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .1 = \left[f'(1) = \frac{9}{2}\right] \\ .2 = [f'(-2) = 2512] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 10x + 3) & .2 = (f'(x) = 18x^2) \\ .3 = (f'(x) = 35x^6 + 10x^4 - 12x^3 - 8x) & .4 = \left(f'(x) = \frac{10}{3}x^4 - \frac{15}{4}x^2 + \frac{3}{2}\right) \\ .5 = \left(f'(x) = -\frac{2}{x^{(3/2)}} + 5 + \frac{3}{2\sqrt{x}}\right) & .6 = \left(f'(x) = \frac{1}{5x^{(4/5)}} + \frac{4}{5x^{(1/5)}} - \frac{5}{4x^{(9/4)}} - \frac{1}{5x^{(6/5)}}\right) \\ .7 = (f'(x) = 60x^3 + 78x^2 + 56x + 8) & .8 = \left(f'(x) = -\frac{-3x + 6\sqrt{x} - 5}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = -\frac{34}{(3x-5)^2}\right) & .10 = \left(f'(x) = \frac{5x^{(3/2)}(9x^2+4)}{2}\right) \\ .11 = \left(f'(x) = \frac{8x^6 - 20x^4 - 6x^2 - 25}{x^6}\right) & .12 = \left(f'(x) = \frac{15x^6 - 46x^5 - 245x^4 - 200x^3}{(x-5)^2}\right) \end{bmatrix}, \quad \begin{bmatrix} \underline{:)} \\ :(\\ [[P, V, S, S]] \\ \& \\ [[M, a, t, h, @, M, U, T]] \\ \underline{:)} \\ :(\end{bmatrix}$$

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Diff02 Answers for No.9440

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 6x+1) \\ .2 = (f'(x) = 12x^2) \\ .3 = \left(f'(x) = -\frac{2}{x^2}\right) \\ .4 = \left(f'(x) = \frac{3}{\sqrt{x}}\right) \end{bmatrix}, \quad , Ans2 = \begin{bmatrix} .1 = (f'(6) = 432) \\ .2 = (f'(1) = -8) \end{bmatrix}, \quad , Ans4 = \begin{bmatrix} .1 = [f'(-2) = 2608] \\ .2 = \left[f'(4) = \frac{47}{16}\right] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 6x+1) & .2 = (f'(x) = 12x^2) \\ .3 = (f'(x) = 35x^6 - 18x^5 - 5x^4 + 16x^3) & .4 = \left(f'(x) = \frac{5}{2}x^4 - \frac{8}{3}x^3 - x\right) \\ .5 = \left(f'(x) = 3 - \frac{5}{2x^{(3/2)}} + \frac{1}{2\sqrt{x}}\right) & .6 = \left(f'(x) = -\frac{1}{3x^{(4/3)}} - \frac{2}{3x^{(5/3)}} + \frac{2}{3x^{(1/3)}} - \frac{3}{2x^{(5/2)}}\right) \\ .7 = (f'(x) = 8x^3 + 42x^2 + 38x - 5) & .8 = \left(f'(x) = \frac{3x - 1 + 10\sqrt{x}}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = -\frac{25}{(4x-5)^2}\right) & .10 = \left(f'(x) = \frac{20x^3 + 3}{2x^{(3/2)}}\right) \\ .11 = \left(f'(x) = \frac{-4x^3 - 10x^2 - 24x - 40}{x^5}\right) & .12 = \left(f'(x) = \frac{4x^3 - 21x^2 - 90x - 50}{(x-5)^2}\right) \end{bmatrix}, \quad , \begin{bmatrix} \underline{:)} \\ :(\\ \left[\left[\begin{matrix} P \\ V \\ S \\ S \end{matrix}\right]\right] \\ \& \\ \left[\left[\begin{matrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{matrix}\right]\right] \\ \underline{:)} \\ :(\end{bmatrix}$$

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Diff02 Answers for No.9474

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 6\,x + 4) \\ .2 = (f'(x) = 15\,x^2) \\ .3 = \left(f'(x) = -\dfrac{3}{x^2}\right) \\ .4 = \left(f'(x) = \dfrac{1}{\sqrt{x}}\right) \end{bmatrix}, \quad , \quad Ans2 = \begin{bmatrix} .1 = (f'(6) = 432) \\ .2 = (f'(-1) = 4) \end{bmatrix}, \quad , \quad Ans4 = \begin{bmatrix} .1 = \left[f'(4) = \dfrac{31}{16}\right] \\ .2 = [f'(-2) = 2044] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 6\,x + 4) & .2 = (f'(x) = 15\,x^2) \\ .3 = (f'(x) = 35\,x^6 - 10\,x^4 - 9\,x^2) & .4 = \left(f'(x) = \dfrac{15\,x^2}{4} + \dfrac{3}{2}\right) \\ .5 = \left(f'(x) = 2 - \dfrac{5}{2\,x^{(3/2)}} + \dfrac{1}{2\sqrt{x}}\right) & .6 = \left(f'(x) = -\dfrac{4}{5\,x^{(9/5)}} + \dfrac{4}{5\,x^{(1/5)}} + \dfrac{5\,x^{(1/4)}}{4} + \dfrac{1}{5\,x^{(4/5)}}\right) \\ .7 = (f'(x) = 45\,x^2 + 28\,x + 2) & .8 = \left(f'(x) = -\dfrac{-3\,x + 1 + 4\sqrt{x}}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = \dfrac{23}{(3\,x + 2)^2}\right) & .10 = \left(f'(x) = \dfrac{x^{(3/2)}\,(9\,x^2 + 25)}{2}\right) \\ .11 = \left(f'(x) = \dfrac{2\,x^6 - 8\,x^4 - 9\,x^2 - 60}{x^6}\right) & .12 = \left(f'(x) = \dfrac{10\,x^6 - 20\,x^5 - 45\,x^4 - 40\,x^3 - 90\,x^2}{(-3 + x)^2}\right) \end{bmatrix}, \quad , \quad \begin{bmatrix} \underline{:)} \\ :(\\ \left[\begin{bmatrix} P \\ V \\ S \\ S \end{bmatrix}\right] \\ \& \\ \left[\begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}\right] \\ \underline{:)} \\ :(\end{bmatrix}$$

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Diff02 Answers for No.9607

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 8x - 1) \\ .2 = (f'(x) = 18x^2) \\ .3 = \left(f'(x) = -\frac{5}{x^2}\right) \\ .4 = \left(f'(x) = \frac{5}{3x^{(2/3)}}\right) \end{bmatrix}, \quad , \quad Ans2 = \begin{bmatrix} .1 = (f'(6) = 540) \\ .2 = \left(f'(-2) = \frac{3}{4}\right) \end{bmatrix}, \quad , \quad Ans4 = \begin{bmatrix} .1 = \left[f'(4) = \frac{37}{16}\right] \\ .2 = [f'(-2) = -224] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 8x - 1) & .2 = (f'(x) = 18x^2) \\ .3 = (f'(x) = 14x^6 + 30x^5 - 10x^4) & .4 = \left(f'(x) = 6x^3 + \frac{2}{3}x + \frac{4}{3}\right) \\ .5 = \left(f'(x) = \frac{1}{2\sqrt{x}} + 2 + \frac{1}{2x^{(3/2)}}\right) & .6 = \left(f'(x) = -\frac{5}{2x^{(7/2)}} + \frac{2}{5x^{(3/5)}} - \frac{1}{5x^{(6/5)}} + \frac{5x^{(3/2)}}{2}\right) \\ .7 = (f'(x) = 32x^3 + 24x^2 - 36x - 16) & .8 = \left(f'(x) = -\frac{-3x + 6\sqrt{x} + 4}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = \frac{20}{(5x+1)^2}\right) & .10 = \left(f'(x) = -\frac{-2 + 25x^2}{2\sqrt{x}}\right) \\ .11 = \left(f'(x) = \frac{20x^8 + 20x^5 - 2x^3 - 32}{x^5}\right) & .12 = \left(f'(x) = \frac{12x^5 + 9x^4 - 144x^3 + 5x^2 + 30x - 60}{(x+3)^2}\right) \end{bmatrix}, \quad , \quad \begin{bmatrix} \frac{:)}{:(} \\ [[P, V, S, S]] \\ \& \\ [[M, a, t, h, @, M, U, T]] \\ \frac{:)}{:(} \end{bmatrix}$$

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Diff02 Answers for No.9965

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 6x+5) \\ .2 = (f'(x) = 6x^2) \\ .3 = \left(f'(x) = -\frac{5}{x^2}\right) \\ .4 = \left(f'(x) = \frac{1}{x^{(2/3)}}\right) \end{bmatrix}, \quad , \quad Ans2 = \begin{bmatrix} .1 = (f'(3) = 108) \\ .2 = \left(f'(-3) = \frac{8}{27}\right) \end{bmatrix}, \quad , \quad Ans4 = \begin{bmatrix} .1 = [f'(-2) = -77] \\ .2 = \left[f'(4) = \frac{13}{8}\right] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 6x+5) & .2 = (f'(x) = 6x^2) \\ .3 = (f'(x) = 8x^3 + 8x + 3) & .4 = \left(f'(x) = 5x^3 + \frac{10}{3}x\right) \\ .5 = \left(f'(x) = -\frac{1}{x^{(3/2)}} - \frac{1}{2\sqrt{x}} + 2\right) & .6 = \left(f'(x) = -\frac{1}{5x^{(6/5)}} + \frac{1}{5x^{(4/5)}} - \frac{5}{3x^{(8/3)}} - \frac{3}{5x^{(8/5)}}\right) \\ .7 = (f'(x) = 36x^2 + 46x + 22) & .8 = \left(f'(x) = \frac{3x + 2\sqrt{x} - 2}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = -\frac{13}{(4x-3)^2}\right) & .10 = \left(f'(x) = \frac{x^{(7/2)}(65x^2 - 36)}{2}\right) \\ .11 = \left(f'(x) = \frac{16x^6 + 6x^5 - 60x - 60}{x^5}\right) & .12 = \left(f'(x) = \frac{20x^6 - 111x^4 - 6x^3 - 54x^2}{(x-2)^2}\right) \end{bmatrix}, \quad , \quad \begin{bmatrix} \frac{:)}{:(} \\ \left[\left[\begin{matrix} P \\ V \\ S \\ S \end{matrix}\right]\right] \\ \& \\ \left[\left[\begin{matrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{matrix}\right]\right] \\ \frac{:)}{:(} \end{bmatrix}$$

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Diff02 Answers for No.10186

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 8x + 2) \\ .2 = (f'(x) = 12x^2) \\ .3 = \left(f'(x) = -\frac{4}{x^2}\right) \\ .4 = \left(f'(x) = \frac{2}{3x^{(2/3)}}\right) \end{bmatrix}, \quad , \quad Ans2 = \begin{bmatrix} .1 = (f'(5) = 300) \\ .2 = (f'(1) = -10) \end{bmatrix}, \quad , \quad Ans4 = \begin{bmatrix} .1 = \left[f'(1) = \frac{9}{2}\right] \\ .2 = [f'(2) = 2756] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 8x + 2) & .2 = (f'(x) = 12x^2) \\ .3 = (f'(x) = 28x^6 + 30x^5 + 4x - 4) & .4 = \left(f'(x) = \frac{5}{3}x^4 + \frac{2}{3}x^3 + \frac{4}{5}\right) \\ .5 = \left(f'(x) = 3 + \frac{1}{2\sqrt{x}} + \frac{1}{x^{(3/2)}}\right) & .6 = \left(f'(x) = \frac{1}{5x^{(4/5)}} - \frac{1}{5x^{(6/5)}} + \frac{2}{5x^{(3/5)}} + \frac{5x^{(3/2)}}{2}\right) \\ .7 = (f'(x) = 48x^3 + 87x^2 + 12x - 15) & .8 = \left(f'(x) = -\frac{-3x + 6\sqrt{x} - 2}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = \frac{8}{(1 + 3x)^2}\right) & .10 = \left(f'(x) = \frac{x^{(3/2)}(52x^4 - 25)}{2}\right) \\ .11 = \left(f'(x) = \frac{-10x^3 - 30x^2 - 12x - 30}{x^6}\right) & .12 = \left(f'(x) = \frac{25x^6 + 70x^5 - 66x^4 + 30x^3 - 27x^2}{(x+3)^2}\right) \end{bmatrix}, \quad , \quad \begin{bmatrix} \frac{:)}{:(} \\ \left[\left[\begin{matrix} P \\ V \\ S \\ S \end{matrix}\right]\right] \\ \& \\ \left[\left[\begin{matrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{matrix}\right]\right] \\ \frac{:)}{:(} \end{bmatrix}$$

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Diff02 Answers for No.10203

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 2x - 2) \\ .2 = (f'(x) = 9x^2) \\ .3 = \left(f'(x) = -\frac{2}{x^2}\right) \\ .4 = \left(f'(x) = \frac{2}{3x^{(2/3)}}\right) \end{bmatrix}, \quad , \quad Ans2 = \begin{bmatrix} .1 = (f'(2) = 36) \\ .2 = (f'(-1) = 6) \end{bmatrix}, \quad , \quad Ans4 = \begin{bmatrix} .1 = \left[f'(1) = \frac{-1}{2}\right] \\ .2 = [f'(2) = 390] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 2x - 2) & .2 = (f'(x) = 9x^2) \\ .3 = (f'(x) = 6x^5 + 10x^4 + 9x^2 + 2) & .4 = \left(f'(x) = x^2 + \frac{5}{3}x\right) \\ .5 = \left(f'(x) = \frac{2}{\sqrt{x}} - \frac{1}{2x^{(3/2)}} - 2\right) & .6 = \left(f'(x) = -\frac{5}{2x^{(7/2)}} + \frac{1}{5x^{(4/5)}} + \frac{2}{5x^{(3/5)}} + \frac{5x^{(3/2)}}{2}\right) \\ .7 = (f'(x) = 18x^2 + 40x + 8) & .8 = \left(f'(x) = -\frac{-3x - 4 + 6\sqrt{x}}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = -\frac{26}{(x-5)^2}\right) & .10 = \left(f'(x) = \frac{9x^5 - 2}{2x^{(3/2)}}\right) \\ .11 = \left(f'(x) = \frac{8x^4 + 5x^3 - 12x - 30}{x^3}\right) & .12 = \left(f'(x) = \frac{20x^5 - 25x^4 - 200x^3 + 4x^2 + 16x - 40}{(x+2)^2}\right) \end{bmatrix}, \quad , \quad \begin{bmatrix} \frac{:)}{:(} \\ \left[\left[\begin{matrix} P \\ V \\ S \\ S \end{matrix}\right]\right] \\ \& \\ \left[\left[\begin{matrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{matrix}\right]\right] \\ \frac{:)}{:(} \end{bmatrix}$$

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Diff02 Answers for No.10215

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 4x - 1) \\ .2 = (f'(x) = 6x^2) \\ .3 = \left(f'(x) = -\frac{3}{x^2}\right) \\ .4 = \left(f'(x) = \frac{2}{x^{(2/3)}}\right) \end{bmatrix}, \quad Ans2 = \begin{bmatrix} .1 = (f'(5) = 225) \\ .2 = \left(f'(2) = \frac{-5}{4}\right) \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .1 = [f'(2) = 1136] \\ .2 = [f'(1) = 5] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 4x - 1) & .2 = (f'(x) = 6x^2) \\ .3 = (f'(x) = 14x^6 + 5x^4 + 20x^3) & .4 = \left(f'(x) = \frac{5}{3}x^4 - \frac{12}{5}x^2 - x\right) \\ .5 = \left(f'(x) = 1 + \frac{3}{2\sqrt{x}} + \frac{5}{2x^{(3/2)}}\right) & .6 = \left(f'(x) = \frac{1}{5x^{(4/5)}} - \frac{1}{5x^{(6/5)}} + \frac{2}{5x^{(3/5)}} + \frac{5x^{(3/2)}}{2}\right) \\ .7 = (f'(x) = 24x^3 + 75x^2 + 38x - 10) & .8 = \left(f'(x) = \frac{3x + 2\sqrt{x} + 5}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = -\frac{13}{(4+3x)^2}\right) & .10 = \left(f'(x) = -\frac{-5 + 39x^6}{2\sqrt{x}}\right) \\ .11 = \left(f'(x) = \frac{30x^7 - 20x^4 - 12x^3 - 40}{x^6}\right) & .12 = \left(f'(x) = \frac{3x^4 + 24x^3 + 27x^2 - 30x - 30}{(x+5)^2}\right) \end{bmatrix}, \quad \begin{bmatrix} \frac{:)}{:(} \\ \begin{bmatrix}\begin{bmatrix} P \\ V \\ S \\ S \end{bmatrix}\end{bmatrix} \\ \& \\ \begin{bmatrix}\begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}\end{bmatrix} \\ \frac{:)}{:(} \end{bmatrix}$$

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Diff02 Answers for No.10889

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 4x + 1) \\ .2 = (f'(x) = 9x^2) \\ .3 = \left(f'(x) = -\frac{3}{x^2}\right) \\ .4 = \left(f'(x) = \frac{5}{2\sqrt{x}}\right) \end{bmatrix}, \quad , \quad Ans2 = \begin{bmatrix} .1 = (f'(5) = 150) \\ .2 = (f'(1) = -6) \end{bmatrix}, \quad , \quad Ans4 = \begin{bmatrix} .1 = [f'(2) = 709] \\ .2 = \left[f'(4) = \frac{-53}{16}\right] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 4x + 1) & .2 = (f'(x) = 9x^2) \\ .3 = (f'(x) = 24x^5 - 8x^3 + 5) & .4 = \left(f'(x) = \frac{12}{5}x^2 - \frac{8}{3}x\right) \\ .5 = \left(f'(x) = \frac{1}{\sqrt{x}} - 4 + \frac{3}{2x^{(3/2)}}\right) & .6 = \left(f'(x) = -\frac{1}{3x^{(4/3)}} + \frac{1}{3x^{(2/3)}} - \frac{2}{3x^{(5/3)}} + \frac{2}{3x^{(1/3)}}\right) \\ .7 = (f'(x) = 48x^3 + 81x^2 + 38x + 5) & .8 = \left(f'(x) = -\frac{-3x + 2\sqrt{x} + 4}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = -\frac{31}{(3+5x)^2}\right) & .10 = \left(f'(x) = \frac{39x^6 - 4}{2\sqrt{x}}\right) \\ .11 = \left(f'(x) = \frac{-4x^2 - 33x - 60}{x^5}\right) & .12 = \left(f'(x) = \frac{5x^6 - 14x^5 - 88x^4 - 48x^3 - 240x^2}{(x-5)^2}\right) \end{bmatrix}, \quad , \quad \begin{bmatrix} \frac{:)}{:(} \\ \begin{bmatrix}\begin{bmatrix} P \\ V \\ S \\ S \end{bmatrix}\end{bmatrix} \\ \& \\ \begin{bmatrix}\begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}\end{bmatrix} \\ \frac{:)}{:(} \end{bmatrix}$$

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Diff02 Answers for No.10981

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 4x - 5) \\ .2 = (f'(x) = 15x^2) \\ .3 = \left(f'(x) = -\frac{2}{x^2}\right) \\ .4 = \left(f'(x) = \frac{5}{3x^{(2/3)}}\right) \end{bmatrix}, \quad , \quad Ans2 = \begin{bmatrix} .1 = (f'(5) = 150) \\ .2 = \left(f'(-2) = \frac{3}{2}\right) \end{bmatrix}, \quad , \quad Ans4 = \begin{bmatrix} .1 = [f'(1) = -7] \\ .2 = [f'(-2) = 947] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 4x - 5) & .2 = (f'(x) = 15x^2) \\ .3 = (f'(x) = 14x^6 - 4x^3 - 10x - 1) & .4 = \left(f'(x) = \frac{5}{3}x^4 - \frac{6}{5}x^2 - \frac{1}{2}\right) \\ .5 = \left(f'(x) = -\frac{1}{2x^{(3/2)}} - 5 - \frac{3}{2\sqrt{x}}\right) & .6 = \left(f'(x) = -\frac{1}{4x^{(5/4)}} - \frac{4}{3x^{(7/3)}} - \frac{3}{4x^{(7/4)}} + \frac{3}{4x^{(1/4)}}\right) \\ .7 = (f'(x) = 58x + 36x^2 + 31) & .8 = \left(f'(x) = -\frac{-3x + 2\sqrt{x} + 2}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = -\frac{25}{(x+5)^2}\right) & .10 = \left(f'(x) = \frac{x^{(7/2)}(18 + 65x^2)}{2}\right) \\ .11 = \left(f'(x) = \frac{60x^5 + 16x^4 - 5x - 4}{x^3}\right) & .12 = \left(f'(x) = \frac{10x^6 - 36x^5 - 150x^4 + 5x^2 - 50x - 75}{(x-5)^2}\right) \end{bmatrix}, \quad , \quad \begin{bmatrix} \frac{:)}{:(} \\ \left[\left[\begin{matrix} P \\ V \\ S \\ S \end{matrix}\right]\right] \\ \& \\ \left[\left[\begin{matrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{matrix}\right]\right] \\ \frac{:)}{:(} \end{bmatrix}$$

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Diff02 Answers for No.10996

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 2x + 3) \\ .2 = (f'(x) = 6x^2) \\ .3 = \left(f'(x) = -\frac{4}{x^2}\right) \\ .4 = \left(f'(x) = \frac{1}{\sqrt{x}}\right) \end{bmatrix}, \quad , \quad Ans2 = \begin{bmatrix} .1 = (f'(2) = 36) \\ .2 = \left(f'(3) = \frac{-10}{27}\right) \end{bmatrix}, \quad , \quad Ans4 = \begin{bmatrix} .1 = [f'(-2) = 1184] \\ .2 = \left[f'(1) = \frac{5}{2}\right] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 2x + 3) & .2 = (f'(x) = 6x^2) \\ .3 = (f'(x) = 14x^6 - 18x^5 - 20x^4 - 4x^3) & .4 = \left(f'(x) = \frac{2}{3}x^3 - \frac{8}{3}x - \frac{1}{2}\right) \\ .5 = \left(f'(x) = 3 - \frac{5}{2\sqrt{x}} + \frac{2}{x^{(3/2)}}\right) & .6 = \left(f'(x) = -\frac{1}{5x^{(6/5)}} - \frac{5}{2x^{(7/2)}} - \frac{2}{5x^{(7/5)}} + \frac{1}{5x^{(4/5)}}\right) \\ .7 = (f'(x) = 18x^2 - 12x + 8x^3 - 20) & .8 = \left(f'(x) = -\frac{-3x + 8\sqrt{x} + 5}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = -\frac{29}{(4 + 3x)^2}\right) & .10 = \left(f'(x) = \frac{3(12x^4 + 1)}{2\sqrt{x}}\right) \\ .11 = \left(f'(x) = \frac{8x^5 - 20x^3 - 12x^2 - 60}{x^5}\right) & .12 = \left(f'(x) = \frac{25x^6 + 170x^5 + 125x^4 - x^2 - 10x - 5}{(x + 5)^2}\right) \end{bmatrix}, \quad , \quad \begin{bmatrix} \frac{:)}{:(} \\ \begin{bmatrix}\begin{bmatrix} P \\ V \\ S \\ S \end{bmatrix}\end{bmatrix} \\ \& \\ \begin{bmatrix}\begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}\end{bmatrix} \\ \frac{:)}{:(} \end{bmatrix}$$

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Diff02 Answers for No.11386

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 10\,x + 2) \\ .2 = (f'(x) = 12\,x^2) \\ .3 = \left(f'(x) = -\frac{6}{x^2}\right) \\ .4 = \left(f'(x) = \frac{1}{x^{(2/3)}}\right) \end{bmatrix}, \quad , \; Ans2 = \begin{bmatrix} .1 = (f'(2) = 60) \\ .2 = (f'(1) = -10) \end{bmatrix}, \quad , \; Ans4 = \begin{bmatrix} .1 = [f'(2) = 1308] \\ .2 = \left[f'(4) = \frac{-9}{4}\right] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 10\,x + 2) & .2 = (f'(x) = 12\,x^2) \\ .3 = (f'(x) = 14\,x^6 + 25\,x^4 + 3\,x^2) & .4 = \left(f'(x) = \frac{25}{3}x^4 - \frac{2}{3}x\right) \\ .5 = \left(f'(x) = \frac{2}{\sqrt{x}} - 3 - \frac{2}{x^{(3/2)}}\right) & .6 = \left(f'(x) = -\frac{5}{6\,x^{(11/6)}} + \frac{6\,x^{(1/5)}}{5} - \frac{1}{6\,x^{(7/6)}} + \frac{5}{6\,x^{(1/6)}}\right) \\ .7 = (f'(x) = 20\,x^3 + 30\,x^2 + 48\,x + 8) & .8 = \left(f'(x) = -\frac{-3\,x + 2\sqrt{x} + 4}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = -\frac{25}{(3 + 5\,x)^2}\right) & .10 = \left(f'(x) = \frac{x^{(3/2)}(15 + 52\,x^4)}{2}\right) \\ .11 = \left(f'(x) = \frac{32\,x^8 + 20\,x^5 - 2\,x^3 - 20}{x^5}\right) & .12 = \left(f'(x) = \frac{25\,x^6 - 34\,x^5 - 186\,x^4 - 96\,x^3}{(-3 + x)^2}\right) \end{bmatrix}, \quad , \begin{bmatrix} \frac{:)}{:(} \\ \left[\left[\begin{matrix} P \\ V \\ S \\ S \end{matrix}\right]\right] \\ \& \\ \left[\left[\begin{matrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{matrix}\right]\right] \\ \frac{:)}{:(} \end{bmatrix}$$

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Diff02 Answers for No.11394

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 2x+3) \\ .2 = (f'(x) = 15x^2) \\ .3 = \left(f'(x) = -\frac{5}{x^2}\right) \\ .4 = \left(f'(x) = \frac{2}{3x^{(2/3)}}\right) \end{bmatrix}, \quad , \quad Ans2 = \begin{bmatrix} .1 = (f'(4) = 144) \\ .2 = (f'(1) = -8) \end{bmatrix}, \quad , \quad Ans4 = \begin{bmatrix} .1 = [f'(-2) = -12] \\ .2 = \left[f'(1) = \frac{9}{2}\right] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 2x+3) & .2 = (f'(x) = 15x^2) \\ .3 = (f'(x) = 8x^3 + 12x^2 - 2x) & .4 = \left(f'(x) = \frac{16}{3}x^3 - x\right) \\ .5 = \left(f'(x) = \frac{2}{\sqrt{x}} - \frac{1}{2x^{(3/2)}} + 3\right) & .6 = \left(f'(x) = \frac{1}{5x^{(4/5)}} - \frac{3}{5x^{(8/5)}} + \frac{5x^{(2/3)}}{3} - \frac{1}{5x^{(6/5)}}\right) \\ .7 = (f'(x) = 20x^3 + 63x^2 + 28x + 2) & .8 = \left(f'(x) = -\frac{-3x + 2\sqrt{x} - 5}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = \frac{29}{(4x+5)^2}\right) & .10 = \left(f'(x) = -\frac{3x^{(3/2)}(-5+6x^2)}{2}\right) \\ .11 = \left(f'(x) = \frac{16x^4 + 4x^3 - 10x - 10}{x^3}\right) & .12 = \left(f'(x) = \frac{4x^5 - 16x^4 - 54x^3 - 36x^2 - 90x}{(x-5)^2}\right) \end{bmatrix}, \quad , \quad \begin{bmatrix} \frac{:)}{:(} \\ [[P\ V\ S\ S]] \\ \& \\ [[M\ a\ t\ h\ @\ M\ U\ T]] \\ \frac{:)}{:(} \end{bmatrix}$$

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Diff02 Answers for No.11397

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = -5 + 2x) \\ .2 = (f'(x) = 9x^2) \\ .3 = \left(f'(x) = -\frac{3}{x^2}\right) \\ .4 = \left(f'(x) = \frac{3}{2\sqrt{x}}\right) \end{bmatrix}, \quad , \; Ans2 = \begin{bmatrix} .1 = (f'(6) = 540) \\ .2 = (f'(1) = -4) \end{bmatrix}, \quad , \; Ans4 = \begin{bmatrix} .1 = \left[f'(1) = \frac{5}{2}\right] \\ .2 = [f'(-2) = -716] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = -5 + 2x) & .2 = (f'(x) = 9x^2) \\ .3 = (f'(x) = 24x^5 + 15x^2 + 2x - 4) & .4 = \left(f'(x) = \frac{16}{3}x^3 + \frac{3}{2}x^2 - \frac{5}{6}\right) \\ .5 = \left(f'(x) = 3 + \frac{2}{\sqrt{x}} - \frac{5}{2x^{(3/2)}}\right) & .6 = \left(f'(x) = -\frac{5}{4x^{(9/4)}} + \frac{4}{5x^{(1/5)}} - \frac{1}{5x^{(6/5)}} - \frac{4}{5x^{(9/5)}}\right) \\ .7 = (f'(x) = 60x^3 - 16x + 60x^2 + 16) & .8 = \left(f'(x) = \frac{3x + 8\sqrt{x} - 1}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = \frac{17}{(5+3x)^2}\right) & .10 = \left(f'(x) = \frac{10x^3 - 3}{2x^{(3/2)}}\right) \\ .11 = \left(f'(x) = \frac{40x^7 - 4x^4 - 30x^3 - 15}{x^6}\right) & .12 = \left(f'(x) = \frac{25x^6 - 70x^5 - 116x^4 - 18x^3 - 45x^2}{(x+1)^2}\right) \end{bmatrix}, \quad , \begin{bmatrix} \underline{:)} \\ :(\\ \left[\left[\begin{matrix} P \\ V \\ S \\ S \end{matrix}\right]\right] \\ \& \\ \left[\left[\begin{matrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{matrix}\right]\right] \\ \underline{:)} \\ :(\end{bmatrix}$$

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Diff02 Answers for No.11456

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 10\,x - 4) \\ .2 = (f'(x) = 15\,x^2) \\ .3 = \left(f'(x) = -\frac{2}{x^2}\right) \\ .4 = \left(f'(x) = \frac{5}{2\sqrt{x}}\right) \end{bmatrix}, \quad , \quad Ans2 = \begin{bmatrix} .1 = (f'(2) = 24) \\ .2 = (f'(-1) = 8) \end{bmatrix}, \quad , \quad Ans4 = \begin{bmatrix} .1 = [f'(2) = 1376] \\ .2 = [f'(4) = -2] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 10\,x - 4) & .2 = (f'(x) = 15\,x^2) \\ .3 = (f'(x) = 28\,x^6 - 12\,x^5 - 4\,x^3) & .4 = \left(f'(x) = \frac{3\,x^2}{5} + \frac{5}{2}\right) \\ .5 = \left(f'(x) = -\frac{2}{x^{(3/2)}} + \frac{5}{2\sqrt{x}} - 3\right) & .6 = \left(f'(x) = \frac{3\sqrt{x}}{2} - \frac{2}{3\,x^{(5/3)}} - \frac{1}{3\,x^{(4/3)}} + \frac{1}{3\,x^{(2/3)}}\right) \\ .7 = (f'(x) = 9\,x^2 + 22\,x + 1) & .8 = \left(f'(x) = \frac{3\,x + 10\sqrt{x} - 3}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = -\frac{13}{(x-5)^2}\right) & .10 = \left(f'(x) = \frac{10\,x^3 - 1}{2\,x^{(3/2)}}\right) \\ .11 = \left(f'(x) = \frac{-5\,x^3 - 10\,x^2 - 9\,x - 12}{x^5}\right) & .12 = \left(f'(x) = \frac{15\,x^6 + 24\,x^5 - 30\,x^4 + 2\,x^2 + 8\,x - 4}{(x+2)^2}\right) \end{bmatrix}, \quad , \quad \begin{bmatrix} \underline{:)} \\ :(\\ \begin{bmatrix}\begin{bmatrix} P \\ V \\ S \\ S \end{bmatrix}\end{bmatrix} \\ \& \\ \begin{bmatrix}\begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}\end{bmatrix} \\ \underline{:)} \\ :(\end{bmatrix}$$

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Diff02 Answers for No.11496

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 2x + 2) \\ .2 = (f'(x) = 12x^2) \\ .3 = \left(f'(x) = -\frac{3}{x^2}\right) \\ .4 = \left(f'(x) = \frac{2}{\sqrt{x}}\right) \end{bmatrix}, \quad Ans2 = \begin{bmatrix} .1 = (f'(2) = 60) \\ .2 = \left(f'(3) = \frac{-10}{27}\right) \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .1 = [f'(4) = 3] \\ .2 = [f'(2) = 444] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 2x + 2) & .2 = (f'(x) = 12x^2) \\ .3 = (f'(x) = 25x^4 + 9x^2 + 4x) & .4 = \left(f'(x) = \frac{8}{5}x^3 + \frac{9}{5}x^2\right) \\ .5 = \left(f'(x) = 3 + \frac{1}{2\sqrt{x}} - \frac{2}{x^{(3/2)}}\right) & .6 = \left(f'(x) = -\frac{2}{5x^{(7/5)}} + \frac{2}{5x^{(3/5)}} - \frac{5}{2x^{(7/2)}} - \frac{1}{5x^{(6/5)}}\right) \\ .7 = (f'(x) = 100x^3 - 20x + 60x^2 - 12) & .8 = \left(f'(x) = -\frac{-3x + 1 + 4\sqrt{x}}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = \frac{19}{(4x+5)^2}\right) & .10 = \left(f'(x) = \frac{x^{(7/2)}(52x^2 + 9)}{2}\right) \\ .11 = \left(f'(x) = \frac{-24x^2 - 104x - 75}{x^6}\right) & .12 = \left(f'(x) = \frac{20x^6 + 60x^5 - 48x^4 - 12x^3}{(x+3)^2}\right) \end{bmatrix}, \quad \begin{bmatrix} \frac{:)}{:(} \\ \begin{bmatrix}\begin{bmatrix} P \\ V \\ S \\ S \end{bmatrix}\end{bmatrix} \\ \& \\ \begin{bmatrix}\begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}\end{bmatrix} \\ \frac{:)}{:(} \end{bmatrix}$$

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Diff02 Answers for No.11509

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 8x + 1) \\ .2 = (f'(x) = 15x^2) \\ .3 = \left(f'(x) = -\frac{4}{x^2}\right) \\ .4 = \left(f'(x) = \frac{2}{\sqrt{x}}\right) \end{bmatrix}, \quad , Ans2 = \begin{bmatrix} .1 = (f'(4) = 192) \\ .2 = \left(f'(-2) = \frac{3}{2}\right) \end{bmatrix}, \quad , Ans4 = \begin{bmatrix} .1 = \left[f'(4) = \frac{-13}{8}\right] \\ .2 = [f'(2) = 1432] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 8x + 1) & .2 = (f'(x) = 15x^2) \\ .3 = (f'(x) = 7x^6 + 24x^5 + 15x^4 - 6x^2) & .4 = \left(f'(x) = 6x^3 + 4x^2 - \frac{1}{2}\right) \\ .5 = \left(f'(x) = -\frac{1}{x^{(3/2)}} - 1 - \frac{1}{\sqrt{x}}\right) & .6 = \left(f'(x) = -\frac{5}{4x^{(9/4)}} + \frac{5x^{(1/4)}}{4} + \frac{1}{5x^{(4/5)}} + \frac{4}{5x^{(1/5)}}\right) \\ .7 = (f'(x) = 32x^3 + 48x^2 + 24x + 4) & .8 = \left(f'(x) = -\frac{-3x + 10\sqrt{x} - 4}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = -\frac{34}{(3x-5)^2}\right) & .10 = \left(f'(x) = -\frac{3x+2}{2x^{(3/2)}}\right) \\ .11 = \left(f'(x) = \frac{4x^5 + 2x^4 - 10x - 15}{x^4}\right) & .12 = \left(f'(x) = \frac{6x^3 + 16x^2 + 14x - 20}{(x+1)^2}\right) \end{bmatrix}, \quad , \begin{bmatrix} \frac{:)}{:(} \\ [[P\ V\ S\ S]] \\ \& \\ [[M\ a\ t\ h\ @\ M\ U\ T]] \\ \frac{:)}{:(} \end{bmatrix}$$

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Diff02 Answers for No.11539

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 3 + 4x) \\ .2 = (f'(x) = 9x^2) \\ .3 = \left(f'(x) = -\frac{5}{x^2}\right) \\ .4 = \left(f'(x) = \frac{5}{2\sqrt{x}}\right) \end{bmatrix}, \quad , Ans2 = \begin{bmatrix} .1 = (f'(3) = 108) \\ .2 = (f'(2) = -1) \end{bmatrix}, \quad , Ans4 = \begin{bmatrix} .1 = \left[f'(4) = \frac{-59}{16}\right] \\ .2 = [f'(2) = 1023] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 3 + 4x) & .2 = (f'(x) = 9x^2) \\ .3 = (f'(x) = 30x^5 + 8x^3 + 2x - 5) & .4 = \left(f'(x) = \frac{5}{2}x^4 - \frac{4}{3}x - \frac{5}{6}\right) \\ .5 = \left(f'(x) = \frac{5}{2\sqrt{x}} + \frac{1}{2x^{(3/2)}} - 5\right) & .6 = \left(f'(x) = \frac{2}{3x^{(1/3)}} - \frac{2}{3x^{(5/3)}} + \frac{3\sqrt{x}}{2} + \frac{1}{3x^{(2/3)}}\right) \\ .7 = (f'(x) = 36x^3 + 24x + 9x^2 - 1) & .8 = \left(f'(x) = \frac{3x + 6\sqrt{x} - 2}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = -\frac{14}{(4x+5)^2}\right) & .10 = \left(f'(x) = \frac{x^{(3/2)}(26x^4 + 15)}{2}\right) \\ .11 = \left(f'(x) = \frac{16x^5 + 10x^4 - 24x - 45}{x^4}\right) & .12 = \left(f'(x) = \frac{12x^5 + 15x^4 - 236x^3 + 14x^2 - 80x}{(x+4)^2}\right) \end{bmatrix}, \quad , \begin{bmatrix} \underline{:)} \\ :(\\ \left[\left[\begin{matrix} P \\ V \\ S \\ S \end{matrix}\right]\right] \\ \& \\ \left[\left[\begin{matrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{matrix}\right]\right] \\ \underline{:)} \\ :(\end{bmatrix}$$

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Diff02 Answers for No.11585

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 2x + 4) \\ .2 = (f'(x) = 6x^2) \\ .3 = \left(f'(x) = -\frac{5}{x^2}\right) \\ .4 = \left(f'(x) = \frac{2}{\sqrt{x}}\right) \end{bmatrix}, \quad , Ans2 = \begin{bmatrix} .1 = (f'(4) = 144) \\ .2 = \left(f'(-3) = \frac{4}{9}\right) \end{bmatrix}, \quad , Ans4 = \begin{bmatrix} .1 = [f'(-2) = 284] \\ .2 = [f'(1) = -2] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 2x + 4) & .2 = (f'(x) = 6x^2) \\ .3 = (f'(x) = 14x^6 + 24x^5 - 20x^3 + 2x) & .4 = \left(f'(x) = \frac{12}{5}x^2 - \frac{1}{2}x + \frac{3}{5}\right) \\ .5 = \left(f'(x) = \frac{5}{2\sqrt{x}} + \frac{1}{2x^{(3/2)}} - 5\right) & .6 = \left(f'(x) = \frac{1}{5x^{(4/5)}} - \frac{1}{5x^{(6/5)}} + \frac{2}{5x^{(3/5)}} + \frac{5x^{(3/2)}}{2}\right) \\ .7 = (f'(x) = 18x^2 + 38x + 12) & .8 = \left(f'(x) = -\frac{-3x + 2\sqrt{x} + 4}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = -\frac{27}{(x+5)^2}\right) & .10 = \left(f'(x) = \frac{x^{(3/2)}(20 + 9x^2)}{2}\right) \\ .11 = \left(f'(x) = \frac{4x^5 + 10x^4 - 6x - 45}{x^4}\right) & .12 = \left(f'(x) = \frac{8x^5 + 18x^4 - 42x^3 + 21x^2 - 36x}{(x+3)^2}\right) \end{bmatrix}, \quad , \begin{bmatrix} \frac{:)}{:(} \\ \begin{bmatrix}\begin{bmatrix} P \\ V \\ S \\ S \end{bmatrix}\end{bmatrix} \\ \& \\ \begin{bmatrix}\begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}\end{bmatrix} \\ \frac{:)}{:(} \end{bmatrix}$$

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Diff02 Answers for No.11593

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 8x + 3) \\ .2 = (f'(x) = 12x^2) \\ .3 = \left(f'(x) = -\frac{6}{x^2}\right) \\ .4 = \left(f'(x) = \frac{1}{x^{(2/3)}}\right) \end{bmatrix}, \quad , \; Ans2 = \begin{bmatrix} .1 = (f'(5) = 300) \\ .2 = \left(f'(2) = \frac{-3}{2}\right) \end{bmatrix}, \quad , \; Ans4 = \begin{bmatrix} .1 = [f'(1) = -1] \\ .2 = [f'(2) = 2400] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 8x + 3) & .2 = (f'(x) = 12x^2) \\ .3 = (f'(x) = 35x^6 + 20x^4 - 20x^3) & .4 = \left(f'(x) = \frac{25}{3}x^4 - \frac{1}{3}x\right) \\ .5 = \left(f'(x) = 3 - \frac{5}{2\sqrt{x}} - \frac{3}{2x^{(3/2)}}\right) & .6 = \left(f'(x) = -\frac{1}{3x^{(4/3)}} - \frac{2}{3x^{(5/3)}} + \frac{2}{3x^{(1/3)}} - \frac{3}{2x^{(5/2)}}\right) \\ .7 = (f'(x) = 80x^3 + 30x^2 - 22x + 2) & .8 = \left(f'(x) = -\frac{-3x + 2\sqrt{x} + 5}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = -\frac{11}{(5x-3)^2}\right) & .10 = \left(f'(x) = \frac{27x^5 + 4}{2x^{(3/2)}}\right) \\ .11 = \left(f'(x) = \frac{-6x^2 - 42x - 32}{x^5}\right) & .12 = \left(f'(x) = \frac{25x^6 + 130x^5 + 125x^4 - 3x^2 - 6x - 15}{(x+1)^2}\right) \end{bmatrix}, \quad , \begin{bmatrix} \frac{:)}{:(} \\ \begin{bmatrix}\begin{bmatrix} P \\ V \\ S \\ S \end{bmatrix}\end{bmatrix} \\ \& \\ \begin{bmatrix}\begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}\end{bmatrix} \\ \frac{:)}{:(} \end{bmatrix}$$

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Diff02 Answers for No.11633

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 6x - 5) \\ .2 = (f'(x) = 6x^2) \\ .3 = \left(f'(x) = -\frac{2}{x^2}\right) \\ .4 = \left(f'(x) = \frac{3}{2\sqrt{x}}\right) \end{bmatrix}, \quad , \; Ans2 = \begin{bmatrix} .1 = (f'(3) = 81) \\ .2 = \left(f'(-2) = \frac{3}{4}\right) \end{bmatrix}, \quad , \; Ans4 = \begin{bmatrix} .1 = \left[f'(1) = \frac{-13}{2}\right] \\ .2 = [f'(2) = 138] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 6x - 5) & .2 = (f'(x) = 6x^2) \\ .3 = (f'(x) = 5x^4 + 15x^2 - 2) & .4 = \left(f'(x) = \frac{15}{4}x^2 - \frac{6}{5}x + \frac{1}{2}\right) \\ .5 = \left(f'(x) = -\frac{2}{x^{(3/2)}} - \frac{5}{2\sqrt{x}} - 2\right) & .6 = \left(f'(x) = \frac{3}{4x^{(1/4)}} - \frac{3}{4x^{(7/4)}} + \frac{1}{4x^{(3/4)}} - \frac{1}{4x^{(5/4)}}\right) \\ .7 = (f'(x) = 64x^3 + 84x^2 + 28x + 5) & .8 = \left(f'(x) = \frac{3x + 1 + 4\sqrt{x}}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = -\frac{23}{(x-4)^2}\right) & .10 = \left(f'(x) = \frac{5x^{(3/2)}(13x^4 - 1)}{2}\right) \\ .11 = \left(f'(x) = \frac{-20x^4 - 30x^3 - 32x - 30}{x^6}\right) & .12 = \left(f'(x) = \frac{10x^6 + 28x^5 + 20x^4 - 2x^3 - 5x^2 - 4x}{(x+1)^2}\right) \end{bmatrix}, \quad , \; \begin{bmatrix} \underline{:)} \\ :(\\ \left[\left[\begin{matrix} P \\ V \\ S \\ S \end{matrix}\right]\right] \\ \& \\ \left[\left[\begin{matrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{matrix}\right]\right] \\ \underline{:)} \\ :(\end{bmatrix}$$

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Diff02 Answers for No.11636

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 6x - 4) \\ .2 = (f'(x) = 18x^2) \\ .3 = \left(f'(x) = -\frac{2}{x^2}\right) \\ .4 = \left(f'(x) = \frac{5}{2\sqrt{x}}\right) \end{bmatrix}, \quad , \quad Ans2 = \begin{bmatrix} .1 = (f'(4) = 240) \\ .2 = (f'(-1) = 10) \end{bmatrix}, \quad , \quad Ans4 = \begin{bmatrix} .1 = [f'(1) = -5] \\ .2 = [f'(-2) = 2027] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 6x - 4) & .2 = (f'(x) = 18x^2) \\ .3 = (f'(x) = 35x^6 + 6x^5 + 8x - 5) & .4 = \left(f'(x) = \frac{3}{5}x^2 + x\right) \\ .5 = \left(f'(x) = -\frac{1}{2x^{(3/2)}} - 5 + \frac{1}{2\sqrt{x}}\right) & .6 = \left(f'(x) = -\frac{3}{4x^{(7/4)}} - \frac{1}{4x^{(5/4)}} - \frac{4}{3x^{(7/3)}} + \frac{1}{4x^{(3/4)}}\right) \\ .7 = (f'(x) = 10x + 9x^2 - 24) & .8 = \left(f'(x) = \frac{3x - 1 + 10\sqrt{x}}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = -\frac{11}{(3x-1)^2}\right) & .10 = \left(f'(x) = \frac{20x^3 - 3}{2x^{(3/2)}}\right) \\ .11 = \left(f'(x) = \frac{4x^4 + 5x^3 - 2x - 10}{x^3}\right) & .12 = \left(f'(x) = \frac{4x^5 - 3x^4 - 40x^3 - 36x^2}{(-3+x)^2}\right) \end{bmatrix}, \quad , \quad \begin{bmatrix} \frac{:)}{:(} \\ [[P\ V\ S\ S]] \\ \& \\ [[M\ a\ t\ h\ @\ M\ U\ T]] \\ \frac{:)}{:(} \end{bmatrix}$$

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Diff02 Answers for No.11650

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 10x - 2) \\ .2 = (f'(x) = 9x^2) \\ .3 = \left(f'(x) = -\frac{3}{x^2}\right) \\ .4 = \left(f'(x) = \frac{3}{\sqrt{x}}\right) \end{bmatrix}, \quad Ans2 = \begin{bmatrix} .1 = (f'(5) = 300) \\ .2 = \left(f'(-3) = \frac{10}{27}\right) \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .1 = \left[f'(4) = \frac{97}{16}\right] \\ .2 = [f'(-2) = 77] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 10x - 2) & .2 = (f'(x) = 9x^2) \\ .3 = (f'(x) = 5x^4 + 4x + 5) & .4 = \left(f'(x) = \frac{10}{3}x^4 - x^3\right) \\ .5 = \left(f'(x) = \frac{2}{\sqrt{x}} + 5 + \frac{1}{2x^{(3/2)}}\right) & .6 = \left(f'(x) = -\frac{4}{5x^{(9/5)}} + \frac{4}{5x^{(1/5)}} + \frac{5x^{(1/4)}}{4} + \frac{1}{5x^{(4/5)}}\right) \\ .7 = (f'(x) = 100x^3 + 30x + 75x^2 - 5) & .8 = \left(f'(x) = -\frac{-3x - 3 + 4\sqrt{x}}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = \frac{17}{(4+3x)^2}\right) & .10 = \left(f'(x) = \frac{x^{(3/2)}(26x^4 + 15)}{2}\right) \\ .11 = \left(f'(x) = \frac{2x^4 - 13x^2 - 45}{x^4}\right) & .12 = \left(f'(x) = \frac{6x^4 + 8x^3 - 23x^2 - 2x - 4}{(x-1)^2}\right) \end{bmatrix}, \quad \begin{bmatrix} \frac{:)}{:(} \\ [[P, V, S, S]] \\ \& \\ [[M, a, t, h, @, M, U, T]] \\ \frac{:)}{:(} \end{bmatrix}$$

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Diff02 Answers for No.12273

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 10x - 4) \\ .2 = (f'(x) = 18x^2) \\ .3 = \left(f'(x) = -\frac{2}{x^2}\right) \\ .4 = \left(f'(x) = \frac{1}{\sqrt{x}}\right) \end{bmatrix}, \quad , \quad Ans2 = \begin{bmatrix} .1 = (f'(5) = 375) \\ .2 = (f'(-1) = 4) \end{bmatrix}, \quad , \quad Ans4 = \begin{bmatrix} .1 = [f'(2) = 3060] \\ .2 = [f'(1) = 0] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 10x - 4) & .2 = (f'(x) = 18x^2) \\ .3 = (f'(x) = 35x^6 + 12x^5 + 25x^4 + 9x^2) & .4 = \left(f'(x) = \frac{25}{2}x^4 - \frac{2}{3}x^3 - x\right) \\ .5 = \left(f'(x) = \frac{5}{2\sqrt{x}} - 1 - \frac{3}{2x^{(3/2)}}\right) & .6 = \left(f'(x) = -\frac{1}{6x^{(7/6)}} - \frac{5}{6x^{(11/6)}} + \frac{1}{6x^{(5/6)}} - \frac{6}{5x^{(11/5)}}\right) \\ .7 = (f'(x) = 12x^2 + 42x + 12) & .8 = \left(f'(x) = \frac{3x + 10\sqrt{x} + 4}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = -\frac{11}{(x-2)^2}\right) & .10 = \left(f'(x) = \frac{27x^5 - 1}{2x^{(3/2)}}\right) \\ .11 = \left(f'(x) = \frac{15x^5 + 10x^4 - 2x - 4}{x^3}\right) & .12 = \left(f'(x) = \frac{4x^3 - x^2 - 14x - 15}{(x+1)^2}\right) \end{bmatrix}, \quad , \quad \begin{bmatrix} \frac{:)}{:(} \\ [[P\ V\ S\ S]] \\ \& \\ [[M\ a\ t\ h\ @\ M\ U\ T]] \\ \frac{:)}{:(} \end{bmatrix}$$

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Diff02 Answers for No.12356

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 10x - 2) \\ .2 = (f'(x) = 12x^2) \\ .3 = \left(f'(x) = -\frac{2}{x^2}\right) \\ .4 = \left(f'(x) = \frac{1}{x^{(2/3)}}\right) \end{bmatrix}, \quad , \; Ans2 = \begin{bmatrix} .1 = (f'(3) = 81) \\ .2 = (f'(1) = -10) \end{bmatrix}, \quad , \; Ans4 = \begin{bmatrix} .1 = [f'(-2) = 341] \\ .2 = \left[f'(1) = \frac{-9}{2}\right] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 10x - 2) & .2 = (f'(x) = 12x^2) \\ .3 = (f'(x) = 20x^4 + 3x^2 - 4x + 1) & .4 = \left(f'(x) = \frac{4}{3}x^3 - 2x^2\right) \\ .5 = \left(f'(x) = \frac{1}{2\sqrt{x}} - \frac{2}{x^{(3/2)}} - 3\right) & .6 = \left(f'(x) = -\frac{1}{5x^{(6/5)}} + \frac{1}{5x^{(4/5)}} + \frac{3}{5x^{(2/5)}} - \frac{5}{3x^{(8/3)}}\right) \\ .7 = (f'(x) = 40x^3 + 28x + 12x^2 + 8) & .8 = \left(f'(x) = \frac{3x + 1 + 6\sqrt{x}}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = -\frac{25}{(x+5)^2}\right) & .10 = \left(f'(x) = -\frac{x^{(7/2)}(-45 + 13x^2)}{2}\right) \\ .11 = \left(f'(x) = \frac{4x^7 - 6x^4 - 10x^3 - 75}{x^6}\right) & .12 = \left(f'(x) = \frac{-5x^6 - 22x^5 + 45x^4 + 240x^3}{(x+3)^2}\right) \end{bmatrix}, \quad , \begin{bmatrix} \frac{:)}{:(} \\ [[P\ V\ S\ S]] \\ \& \\ [[M\ a\ t\ h\ @\ M\ U\ T]] \\ \frac{:)}{:(} \end{bmatrix}$$

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Diff02 Answers for No.12585

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 4x - 4) \\ .2 = (f'(x) = 6x^2) \\ .3 = \left(f'(x) = -\frac{6}{x^2}\right) \\ .4 = \left(f'(x) = \frac{3}{\sqrt{x}}\right) \end{bmatrix}, \quad , Ans2 = \begin{bmatrix} .1 = (f'(6) = 432) \\ .2 = (f'(1) = -8) \end{bmatrix}, \quad , Ans4 = \begin{bmatrix} .1 = [f'(-2) = 372] \\ .2 = \left[f'(4) = \frac{-5}{2}\right] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 4x - 4) & .2 = (f'(x) = 6x^2) \\ .3 = (f'(x) = 20x^4 - 4x^3 - 10x) & .4 = \left(f'(x) = 4x^4 - \frac{4}{5}x^3\right) \\ .5 = \left(f'(x) = \frac{3}{2\sqrt{x}} - \frac{2}{x^{(3/2)}} - 3\right) & .6 = \left(f'(x) = -\frac{1}{5x^{(6/5)}} + \frac{1}{5x^{(4/5)}} - \frac{4}{5x^{(9/5)}} + \frac{4}{5x^{(1/5)}}\right) \\ .7 = (f'(x) = 64x^3 - 48x + 12x^2 - 5) & .8 = \left(f'(x) = \frac{3x - 5 + 6\sqrt{x}}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = -\frac{11}{(3x-1)^2}\right) & .10 = \left(f'(x) = -\frac{x^{(3/2)}(-15 + 26x^4)}{2}\right) \\ .11 = \left(f'(x) = \frac{24x^8 - 22x^4 - 25}{x^6}\right) & .12 = \left(f'(x) = \frac{20x^6 + 60x^5 - 48x^4 - 12x^3}{(x+3)^2}\right) \end{bmatrix}, \quad , \begin{bmatrix} \frac{:)}{:(} \\ \begin{bmatrix}\begin{bmatrix} P \\ V \\ S \\ S \end{bmatrix}\end{bmatrix} \\ \& \\ \begin{bmatrix}\begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}\end{bmatrix} \\ \frac{:)}{:(} \end{bmatrix}$$

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Diff02 Answers for No.12667

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 6x + 5) \\ .2 = (f'(x) = 15x^2) \\ .3 = \left(f'(x) = -\frac{3}{x^2}\right) \\ .4 = \left(f'(x) = \frac{1}{\sqrt{x}}\right) \end{bmatrix}, \quad , \; Ans2 = \begin{bmatrix} .1 = (f'(3) = 135) \\ .2 = (f'(-1) = 4) \end{bmatrix}, \quad , \; Ans4 = \begin{bmatrix} .1 = \left[f'(4) = \frac{49}{8} \right] \\ .2 = [f'(2) = 460] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 6x + 5) & .2 = (f'(x) = 15x^2) \\ .3 = (f'(x) = 12x^5 + 5x^4 - 4) & .4 = \left(f'(x) = \frac{3x^2}{4} - \frac{4}{5}\right) \\ .5 = \left(f'(x) = \frac{2}{\sqrt{x}} + 5 + \frac{1}{x^{(3/2)}}\right) & .6 = \left(f'(x) = -\frac{4}{5x^{(9/5)}} + \frac{4}{5x^{(1/5)}} + \frac{5x^{(1/4)}}{4} + \frac{1}{5x^{(4/5)}}\right) \\ .7 = (f'(x) = 18x - 1 + 15x^2) & .8 = \left(f'(x) = \frac{3x + 2\sqrt{x} + 4}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = -\frac{21}{(3x-5)^2}\right) & .10 = \left(f'(x) = \frac{5 + 9x^4}{2\sqrt{x}}\right) \\ .11 = \left(f'(x) = \frac{3x^5 - 6x^3 - 10x^2 - 40}{x^5}\right) & .12 = \left(f'(x) = \frac{5x^6 + 44x^5 + 100x^4 - 5x^2 - 40x - 100}{(x+4)^2}\right) \end{bmatrix}, \quad , \begin{bmatrix} \frac{:)}{:(} \\ \left[\left[\begin{matrix} P \\ V \\ S \\ S \end{matrix}\right]\right] \\ \& \\ \left[\left[\begin{matrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{matrix}\right]\right] \\ \frac{:)}{:(} \end{bmatrix}$$

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Diff02 Answers for No.12678

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 4x + 4) \\ .2 = (f'(x) = 18x^2) \\ .3 = \left(f'(x) = -\frac{5}{x^2}\right) \\ .4 = \left(f'(x) = \frac{5}{3x^{(2/3)}}\right) \end{bmatrix}, \quad , \quad Ans2 = \begin{bmatrix} .1 = (f'(4) = 96) \\ .2 = \left(f'(3) = \frac{-8}{27}\right) \end{bmatrix}, \quad , \quad Ans4 = \begin{bmatrix} .1 = [f'(2) = 708] \\ .2 = [f'(4) = 2] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 4x + 4) & .2 = (f'(x) = 18x^2) \\ .3 = (f'(x) = 12x^5 + 20x^4 - 3x^2 + 8x) & .4 = \left(f'(x) = 3x - \frac{4}{5}\right) \\ .5 = \left(f'(x) = -\frac{2}{x^{(3/2)}} + \frac{5}{2\sqrt{x}} + 1\right) & .6 = \left(f'(x) = -\frac{2}{5x^{(7/5)}} + \frac{2}{5x^{(3/5)}} - \frac{5}{2x^{(7/2)}} - \frac{1}{5x^{(6/5)}}\right) \\ .7 = (f'(x) = 32x^3 + 54x^2 + 24x + 16) & .8 = \left(f'(x) = -\frac{-3x - 5 + 4\sqrt{x}}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = -\frac{23}{(5x-3)^2}\right) & .10 = \left(f'(x) = \frac{x+5}{2x^{(3/2)}}\right) \\ .11 = \left(f'(x) = \frac{-12x^4 - 30x^3 - 16x - 25}{x^6}\right) & .12 = \left(f'(x) = \frac{15x^4 + 6x^3 - 27x^2 - 12x}{(x+1)^2}\right) \end{bmatrix}, \quad , \quad \begin{bmatrix} \underline{:)} \\ :(\\ \left[\left[\begin{matrix} P \\ V \\ S \\ S \end{matrix}\right]\right] \\ \& \\ \left[\left[\begin{matrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{matrix}\right]\right] \\ \underline{:)} \\ :(\end{bmatrix}$$

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Diff02 Answers for No.12690

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 6x - 2) \\ .2 = (f'(x) = 15x^2) \\ .3 = \left(f'(x) = -\frac{6}{x^2}\right) \\ .4 = \left(f'(x) = \frac{1}{\sqrt{x}}\right) \end{bmatrix}, \quad Ans2 = \begin{bmatrix} .1 = (f'(6) = 432) \\ .2 = \left(f'(3) = \frac{-4}{27}\right) \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .1 = \left[f'(4) = \frac{43}{16}\right] \\ .2 = [f'(2) = 296] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 6x - 2) & .2 = (f'(x) = 15x^2) \\ .3 = (f'(x) = 6x^5 + 16x^3 - 6x^2) & .4 = \left(f'(x) = \frac{15}{2}x^4 - x\right) \\ .5 = \left(f'(x) = 2 + \frac{3}{2x^{(3/2)}} + \frac{1}{\sqrt{x}}\right) & .6 = \left(f'(x) = -\frac{1}{5x^{(6/5)}} + \frac{1}{5x^{(4/5)}} + \frac{3}{5x^{(2/5)}} - \frac{5}{3x^{(8/3)}}\right) \\ .7 = (f'(x) = 6x^2 - 2x - 11) & .8 = \left(f'(x) = -\frac{-3x + 6\sqrt{x} + 4}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = -\frac{19}{(-4+3x)^2}\right) & .10 = \left(f'(x) = \frac{5(3x^3+1)}{2x^{(3/2)}}\right) \\ .11 = \left(f'(x) = \frac{45x^5 + 40x^4 - 6x - 16}{x^3}\right) & .12 = \left(f'(x) = \frac{15x^4 + 10x^3 - 146x^2 - 16x - 40}{(x-2)^2}\right) \end{bmatrix}, \quad \begin{bmatrix} \underline{:)} \\ :(\\ \left[\left[\begin{matrix} P \\ V \\ S \\ S \end{matrix}\right]\right] \\ \& \\ \left[\left[\begin{matrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{matrix}\right]\right] \\ \underline{:)} \\ :(\end{bmatrix}$$

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Diff02 Answers for No.12696

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 2x+5) \\ .2 = (f'(x) = 9x^2) \\ .3 = \left(f'(x) = -\frac{5}{x^2}\right) \\ .4 = \left(f'(x) = \frac{2}{\sqrt{x}}\right) \end{bmatrix}, \quad Ans2 = \begin{bmatrix} .1 = (f'(3) = 54) \\ .2 = \left(f'(2) = \frac{-5}{4}\right) \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .1 = \left[f'(4) = \frac{55}{16}\right] \\ .2 = [f'(-2) = -528] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 2x+5) & .2 = (f'(x) = 9x^2) \\ .3 = (f'(x) = 18x^5 - 8x^3 - 9x^2 - 10x) & .4 = \left(f'(x) = \frac{5}{2}x^4 + \frac{9}{4}x^2\right) \\ .5 = \left(f'(x) = 4 - \frac{5}{2x^{(3/2)}} - \frac{1}{2\sqrt{x}}\right) & .6 = \left(f'(x) = -\frac{5}{2x^{(7/2)}} + \frac{1}{5x^{(4/5)}} + \frac{2}{5x^{(3/5)}} + \frac{5x^{(3/2)}}{2}\right) \\ .7 = (f'(x) = 40x^3 + 6x^2 + 38x + 3) & .8 = \left(f'(x) = -\frac{-3x + 1 + 8\sqrt{x}}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = -\frac{11}{(1+3x)^2}\right) & .10 = \left(f'(x) = -\frac{-4 + 15x^2}{2\sqrt{x}}\right) \\ .11 = \left(f'(x) = \frac{36x^6 + 3x^4 - 8x^2 - 6}{x^4}\right) & .12 = \left(f'(x) = \frac{2x^3 - 24x - 10}{(x-2)^2}\right) \end{bmatrix}, \quad , \begin{bmatrix} \underline{:)} \\ :(\\ [[P\ V\ S\ S]] \\ \& \\ [[M\ a\ t\ h\ @\ M\ U\ T]] \\ \underline{:)} \\ :(\end{bmatrix}$$

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Diff02 Answers for No.12777

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 8x + 2) \\ .2 = (f'(x) = 18x^2) \\ .3 = \left(f'(x) = -\frac{2}{x^2}\right) \\ .4 = \left(f'(x) = \frac{1}{\sqrt{x}}\right) \end{bmatrix}, \quad Ans2 = \begin{bmatrix} .1 = (f'(6) = 324) \\ .2 = (f'(2) = -1) \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .1 = [f'(2) = 880] \\ .2 = [f'(1) = 0] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 8x + 2) & .2 = (f'(x) = 18x^2) \\ .3 = (f'(x) = 24x^5 + 12x^3 + 10x - 4) & .4 = \left(f'(x) = 2x^4 - \frac{1}{3}x + \frac{1}{3}\right) \\ .5 = \left(f'(x) = \frac{5}{2\sqrt{x}} + \frac{1}{2x^{(3/2)}} - 3\right) & .6 = \left(f'(x) = -\frac{1}{3x^{(4/3)}} + \frac{2}{3x^{(1/3)}} + \frac{3\sqrt{x}}{2} - \frac{3}{2x^{(5/2)}}\right) \\ .7 = (f'(x) = 27x^2 + 36x + 20) & .8 = \left(f'(x) = \frac{-3 + 3x + 4\sqrt{x}}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = -\frac{29}{(3x-5)^2}\right) & .10 = \left(f'(x) = \frac{65x^7 + 3}{2x^{(3/2)}}\right) \\ .11 = \left(f'(x) = \frac{-30x^2 - 44x - 15}{x^6}\right) & .12 = \left(f'(x) = \frac{20x^6 + 80x^5 - 80x^4 + 5x^2 + 40x - 20}{(x+4)^2}\right) \end{bmatrix}, \quad \begin{bmatrix} \frac{:)}{:(} \\ [[P\ V\ S\ S]] \\ \& \\ [[M\ a\ t\ h\ @\ M\ U\ T]] \\ \frac{:)}{:(} \end{bmatrix}$$

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Diff02 Answers for No.12785

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 2x+2) \\ .2 = (f'(x) = 6x^2) \\ .3 = \left(f'(x) = -\frac{3}{x^2}\right) \\ .4 = \left(f'(x) = \frac{2}{3x^{(2/3)}}\right) \end{bmatrix}, \quad , \quad Ans2 = \begin{bmatrix} .1 = (f'(5) = 225) \\ .2 = (f'(-2) = 1) \end{bmatrix}, \quad , \quad Ans4 = \begin{bmatrix} .1 = \left[f'(4) = \frac{-39}{8}\right] \\ .2 = [f'(2) = 101] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 2x+2) & .2 = (f'(x) = 6x^2) \\ .3 = (f'(x) = 16x^3 - 9x^2 + 4x + 1) & .4 = \left(f'(x) = \frac{4}{3}x^3 - \frac{3}{5}x^2 + \frac{3}{2}x\right) \\ .5 = \left(f'(x) = -\frac{1}{x^{(3/2)}} - \frac{3}{2\sqrt{x}} - 4\right) & .6 = \left(f'(x) = \frac{3\sqrt{x}}{2} - \frac{1}{3x^{(4/3)}} + \frac{1}{3x^{(2/3)}} - \frac{3}{2x^{(5/2)}}\right) \\ .7 = (f'(x) = 48x^2 + 48x + 21) & .8 = \left(f'(x) = \frac{3x + 10\sqrt{x} + 4}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = -\frac{8}{(x+4)^2}\right) & .10 = \left(f'(x) = \frac{15x^3 - 2}{2x^{(3/2)}}\right) \\ .11 = \left(f'(x) = \frac{20x^4 + 15x^3 - 8x - 24}{x^3}\right) & .12 = \left(f'(x) = \frac{3x^4 + 6x^3 - 8x^2 - 8x}{(x+2)^2}\right) \end{bmatrix}, \quad , \quad \begin{bmatrix} \frac{:)}{:(} \\ \left[\left[\begin{matrix} P \\ V \\ S \\ S \end{matrix}\right]\right] \\ \& \\ \left[\left[\begin{matrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{matrix}\right]\right] \\ \frac{:)}{:(} \end{bmatrix}$$

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Diff02 Answers for No.13085

$$Ans1 = \begin{bmatrix} .1 = (f'(x) = 6x+2) \\ .2 = (f'(x) = 6x^2) \\ .3 = \left(f'(x) = -\frac{4}{x^2}\right) \\ .4 = \left(f'(x) = \frac{2}{x^{(2/3)}}\right) \end{bmatrix}, \quad , \quad Ans2 = \begin{bmatrix} .1 = (f'(4) = 288) \\ .2 = (f'(1) = -8) \end{bmatrix}, \quad , \quad Ans4 = \begin{bmatrix} .1 = \left[f'(1) = \frac{11}{2}\right] \\ .2 = [f'(2) = 2012] \end{bmatrix}$$

$$Ans3 = \begin{bmatrix} .1 = (f'(x) = 6x+2) & .2 = (f'(x) = 6x^2) \\ .3 = (f'(x) = 35x^6 - 10x^4 - 4x^3 - 9x^2) & .4 = \left(f'(x) = \frac{15}{2}x^4 + \frac{16}{5}x^3 - \frac{5}{4}\right) \\ .5 = \left(f'(x) = 5 + \frac{3}{2\sqrt{x}} - \frac{1}{x^{(3/2)}}\right) & .6 = \left(f'(x) = -\frac{1}{5x^{(6/5)}} - \frac{5}{4x^{(9/4)}} + \frac{4}{5x^{(1/5)}} + \frac{5x^{(1/4)}}{4}\right) \\ .7 = (f'(x) = 40x^3 + 15x^2 + 32x - 2) & .8 = \left(f'(x) = \frac{3x+1+4\sqrt{x}}{2\sqrt{x}}\right) \\ .9 = \left(f'(x) = \frac{21}{(x+4)^2}\right) & .10 = \left(f'(x) = \frac{39x^6+1}{2\sqrt{x}}\right) \\ .11 = \left(f'(x) = \frac{16x^7 - 12x^4 - 20x^3 - 75}{x^6}\right) & .12 = \left(f'(x) = \frac{20x^5 - 35x^4 - 36x^3 - 10x^2 - 8x}{(x-2)^2}\right) \end{bmatrix}, \quad , \quad \begin{bmatrix} \frac{:)}{:(} \\ \begin{bmatrix}\begin{bmatrix} P \\ V \\ S \\ S \end{bmatrix}\end{bmatrix} \\ \& \\ \begin{bmatrix}\begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}\end{bmatrix} \\ \frac{:)}{:(} \end{bmatrix}$$

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