

$$Ans2 = \begin{bmatrix} .1 = [F'(k) = -42] \\ .2 = [F'(k) = 0] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .1 = [F'(k) = 352] \\ .2 = [F'(k) = \frac{13}{2}] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .1 = \left[\frac{dP}{dx} = \frac{3}{\sqrt{x}} \right] \\ .2 = \left[\frac{dP}{dx} = \frac{3}{\sqrt{x}} \right] \\ .3 = \left[\frac{9\sqrt{3}\sqrt{26}}{676}, 0.118 \right] \end{bmatrix}, \quad \begin{bmatrix} t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

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$$Ans1 = \left[\begin{array}{ll} .1 = (f(x) = 18 (3x - 8)^5) & .2 = (f(x) = 3 (3x^3 - 7x - 7)^2 (9x^2 - 7)) \\ .3 = \left(f(x) = -\frac{7}{2\sqrt{5-7x}} \right) & .4 = \left(f(x) = -\frac{20x^3}{(5x^4 - 2)^2} \right) \\ .5 = \left(f(x) = -\frac{3(9x^2 + 4)}{(3x^3 + 4x - 4)^4} \right) & .6 = \left(f(x) = \frac{7}{2(3 - 7x)^{(3/2)}} \right) \\ .7 = (f(x) = 3(5x + 7)^5 + 25(3x - 5)(5x + 7)^4) & .8 = \left(f(x) = \frac{230(3x - 5)^4}{(5x + 7)^6} \right) \end{array} \right]$$

$$Ans2 = \begin{bmatrix} .I = [F'(k) = 6] \\ .2 = [F'(k) = -24] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = 154] \\ .2 = \left[F'(k) = \frac{133}{18} \right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .I = \left[\frac{dx}{dt} = \frac{20t}{(2+t^2)^2} \right] \\ .2 = \left[\frac{dP}{dx} = \frac{1}{\sqrt{x}} \right] \\ .3 = \left[\frac{\sqrt{10}\sqrt{33}}{1089}, 0.017 \right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

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$$Ans2 = \begin{bmatrix} .1 = [F'(k) = 32] \\ .2 = [F'(k) = -24] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .1 = [F'(k) = 452] \\ .2 = [F'(k) = \frac{444}{49}] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .1 = \left[\frac{dP}{dx} = \frac{2}{\sqrt{x}} \right] \\ .2 = \left[\frac{dP}{dx} = \frac{2}{\sqrt{x}} \right] \\ .3 = \left[\frac{2\sqrt{13}}{169}, 0.043 \right] \end{bmatrix}, \quad \begin{matrix} t \\ h \\ @ \\ M \\ U \\ T \end{matrix}$$

$$Ans2 = \begin{bmatrix} .I = [F'(k) = 10] \\ .2 = [F'(k) = 0] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = -10] \\ .2 = \left[F'(k) = \frac{35}{2} \right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .I = \left[\frac{dx}{dt} = \frac{36t}{(6+t^2)^2} \right] \\ .2 = \left[\frac{dP}{dx} = \frac{4}{\sqrt{x}} \right] \\ .3 = \left[\frac{12\sqrt{6}\sqrt{35}}{1225}, 0.142 \right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

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$$Ans2 = \begin{bmatrix} .I = [F'(k) = 28] \\ .2 = [F'(k) = -126] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = 720] \\ .2 = \left[F'(k) = \frac{144}{5} \right] \end{bmatrix},$$

$$Ans4 = \left[\begin{array}{l} .1 = \left[\frac{dx}{dt} = \frac{84 t}{(6 + t^2)^2} \right] \\ .2 = \left[\frac{dP}{dx} = \frac{4}{\sqrt{x}} \right] \\ .3 = \left[\frac{4\sqrt{6}}{21}, 0.467 \right] \end{array} \right], , \left[\begin{array}{l} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{array} \right]$$

$$Ans2 = \begin{bmatrix} .I = [F'(k) = 10] \\ .2 = [F'(k) = -56] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = 3006] \\ .2 = \left[F'(k) = \frac{1377}{32}\right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .I = \left[\frac{dx}{dt} = \frac{36t}{(3+t^2)^2}\right] \\ .2 = \left[\frac{dP}{dx} = \frac{2}{\sqrt{x}}\right] \\ .3 = \left[\frac{12\sqrt{6}\sqrt{19}}{361}, 0.355\right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

$$Ans2 = \begin{bmatrix} .I = [F'(k) = -32] \\ .2 = [F'(k) = 24] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = 184] \\ .2 = \left[F'(k) = \frac{296}{25}\right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .1 = \left[\frac{dx}{dt} = \frac{4t}{(1+t^2)^2}\right] \\ .2 = \left[\frac{dP}{dx} = \frac{2}{\sqrt{x}}\right] \\ .3 = \left[\frac{2\sqrt{13}}{169}, 0.043\right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

$$Ans2 = \begin{bmatrix} .I = [F'(k) = -28] \\ .2 = [F'(k) = -56] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = 1320] \\ .2 = \left[F'(k) = \frac{1480}{49}\right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .I = \left[\frac{dx}{dt} = \frac{80t}{(5+t^2)^2}\right] \\ .2 = \left[\frac{dP}{dx} = \frac{2}{\sqrt{x}}\right] \\ .3 = \left[\frac{40\sqrt{2}\sqrt{69}}{4761}, 0.099\right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

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$$Ans I = \left[\begin{array}{ll} .1 = (f(x) = 33 (3x - 5)^{10}) & .2 = (f(x) = 5 (2x^2 + 2x + 11)^4 (4x + 2)) \\ .3 = \left(f(x) = \frac{2}{\sqrt{4x - 7}} \right) & .4 = \left(f(x) = -\frac{56x^6}{(8x^7 - 5)^2} \right) \\ .5 = \left(f(x) = -\frac{3(8x^3 + 2)}{(2x^4 + 2x + 7)^4} \right) & .6 = \left(f(x) = -\frac{3}{2(3x - 8)^{(3/2)}} \right) \\ .7 = (f(x) = 8(2x + 3)^3(3x + 5) + 3(2x + 3)^4) & .8 = \left(f(x) = \frac{4(2x + 3)^3}{(3x + 5)^5} \right) \end{array} \right]$$

$$Ans2 = \begin{bmatrix} .I = [F'(k) = -40] \\ .2 = [F'(k) = -8] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = 30] \\ .2 = \left[F'(k) = \frac{45}{8}\right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .I = \left[\frac{dx}{dt} = \frac{24t}{(3+t^2)^2}\right] \\ .2 = \left[\frac{dP}{dx} = \frac{2}{\sqrt{x}}\right] \\ .3 = \left[\frac{24\sqrt{67}}{4489}, 0.044\right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

$$Ans2 = \begin{bmatrix} .I = [F'(k) = 8] \\ .2 = [F'(k) = 36] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = 44] \\ .2 = \left[F'(k) = \frac{40}{49} \right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .I = \left[\frac{dx}{dt} = \frac{24t}{(6+t^2)^2} \right] \\ .2 = \left[\frac{dP}{dx} = \frac{1}{\sqrt{x}} \right] \\ .3 = \left[\frac{2\sqrt{3}\sqrt{7}}{147}, 0.062 \right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

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$$Ans2 = \begin{bmatrix} .I = [F'(k) = 30] \\ .2 = [F'(k) = -40] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = 990] \\ .2 = \left[F'(k) = \frac{106}{9}\right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .I = \left[\frac{dx}{dt} = \frac{80t}{(5+t^2)^2}\right] \\ .2 = \left[\frac{dP}{dx} = \frac{4}{\sqrt{x}}\right] \\ .3 = \left[\frac{80\sqrt{2}\sqrt{21}}{441}, 1.176\right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

$$Ans2 = \begin{bmatrix} .I = [F'(k) = 14] \\ .2 = [F'(k) = 0] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = 580] \\ .2 = \left[F'(k) = \frac{155}{9} \right] \end{bmatrix}, \quad Ans4 = \left[\begin{array}{l} .I = \left[\frac{dx}{dt} = \frac{10t}{(1+t^2)^2} \right] \\ .2 = \left[\frac{dP}{dx} = \frac{2}{\sqrt{x}} \right] \\ .3 = \left[\frac{4\sqrt{5}\sqrt{37}}{1369}, 0.040 \right] \end{array} \right], \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

$$Ans2 = \begin{bmatrix} .1 = [F'(k) = -40] \\ .2 = [F'(k) = 40] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .1 = [F'(k) = 270] \\ .2 = \left[F'(k) = \frac{145}{32}\right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .1 = \left[\frac{dx}{dt} = \frac{56t}{(4+t^2)^2}\right] \\ .2 = \left[\frac{dP}{dx} = \frac{3}{\sqrt{x}}\right] \\ .3 = \left[\frac{3\sqrt{7}\sqrt{2}}{4}, 2.806\right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

$$Ans1 = \left[\begin{array}{ll} .1 = (f(x) = 55 (5x - 8)^{10}) & .2 = (f(x) = 5 (2x^4 + 2x + 11)^4 (8x^3 + 2)) \\ .3 = \left(f(x) = \frac{7}{2\sqrt{7x-5}} \right) & .4 = \left(f(x) = -\frac{10x^4}{(2x^5 - 7)^2} \right) \\ .5 = \left(f(x) = -\frac{5(8x^3 + 2)}{(2x^4 + 2x + 5)^6} \right) & .6 = \left(f(x) = \frac{5}{2(6 - 5x)^{(3/2)}} \right) \\ .7 = (f(x) = 21(7x + 8)^2(2x + 3) + 2(7x + 8)^3) & .8 = \left(f(x) = \frac{15(7x + 8)^2}{(2x + 3)^4} \right) \end{array} \right]$$

$$Ans2 = \begin{bmatrix} .1 = [F'(k) = 24] \\ .2 = [F'(k) = -40] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .1 = [F'(k) = 84] \\ .2 = \left[F'(k) = \frac{126}{25} \right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .1 = \left[\frac{dx}{dt} = \frac{36t}{(6+t^2)^2} \right] \\ .2 = \left[\frac{dP}{dx} = \frac{1}{\sqrt{x}} \right] \\ .3 = \left[\frac{3\sqrt{6}\sqrt{11}}{121}, 0.201 \right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

$$Ans2 = \begin{bmatrix} .I = [F'(k) = -56] \\ .2 = [F'(k) = 36] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = 252] \\ .2 = \left[F'(k) = \frac{49}{16}\right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .1 = \left[\frac{dP}{dx} = \frac{2}{\sqrt{x}}\right] \\ .2 = \left[\frac{dP}{dx} = \frac{2}{\sqrt{x}}\right] \\ .3 = \left[\frac{12\sqrt{11}}{121}, 0.329\right] \end{bmatrix}, \quad \begin{matrix} t \\ h \\ @ \\ M \\ U \\ T \end{matrix}$$

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$$Ans2 = \begin{bmatrix} .I = [F'(k) = 0] \\ .2 = [F'(k) = 48] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = 255] \\ .2 = \left[F'(k) = \frac{225}{64}\right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .1 = \left[\frac{dP}{dx} = \frac{3}{\sqrt{x}}\right] \\ .2 = \left[\frac{dP}{dx} = \frac{3}{\sqrt{x}}\right] \\ .3 = \left[\frac{2\sqrt{2}}{9}, 0.314\right] \end{bmatrix}, \quad \begin{bmatrix} t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

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$$Ans2 = \begin{bmatrix} .1 = [F'(k) = 16] \\ .2 = [F'(k) = -70] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .1 = [F'(k) = 70] \\ .2 = [F'(k) = \frac{74}{81}] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .1 = \left[\frac{dP}{dx} = \frac{4}{\sqrt{x}} \right] \\ .2 = \left[\frac{dP}{dx} = \frac{4}{\sqrt{x}} \right] \\ .3 = \left[\frac{96\sqrt{31}}{961}, 0.556 \right] \end{bmatrix}, \quad \begin{matrix} t \\ h \\ @ \\ M \\ U \\ T \end{matrix}$$

$$Ans2 = \begin{bmatrix} .I = [F'(k) = 42] \\ .2 = [F'(k) = -32] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = 216] \\ .2 = \left[F'(k) = \frac{13}{2} \right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .I = \left[\frac{dx}{dt} = \frac{48t}{(4+t^2)^2} \right] \\ .2 = \left[\frac{dP}{dx} = \frac{2}{\sqrt{x}} \right] \\ .3 = \left[\frac{2\sqrt{6}\sqrt{17}}{289}, 0.070 \right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

$$Ans2 = \begin{bmatrix} .I = [F'(k) = -24] \\ .2 = [F'(k) = 12] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = 132] \\ .2 = \left[F'(k) = \frac{31}{16}\right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .1 = \left[\frac{dP}{dx} = \frac{3}{\sqrt{x}}\right] \\ .2 = \left[\frac{9\sqrt{2}\sqrt{13}}{338}, 0.136\right] \end{bmatrix}, \quad \begin{bmatrix} t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

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$$Ans1 = \left[\begin{array}{ll} .1 = (f(x) = 33 (3x - 7)^{10}) & .2 = (f(x) = 7 (2x^3 + 2x + 11)^6 (6x^2 + 2)) \\ .3 = \left(f(x) = \frac{7}{2\sqrt{7x-3}} \right) & .4 = \left(f(x) = -\frac{15x^2}{(5x^3+8)^2} \right) \\ .5 = \left(f(x) = -\frac{7(6x^2+2)}{(2x^3+2x+3)^8} \right) & .6 = \left(f(x) = \frac{2}{(7-4x)^{(3/2)}} \right) \\ .7 = (f(x) = 12(4x+5)^2(5x+8) + 5(4x+5)^3) & .8 = \left(f(x) = \frac{21(4x+5)^2}{(5x+8)^4} \right) \end{array} \right]$$

$$Ans2 = \begin{bmatrix} .I = [F'(k) = 30] \\ .2 = [F'(k) = -40] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = 448] \\ .2 = [F'(k) = 9] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .I = \left[\frac{dx}{dt} = \frac{4t}{(1+t^2)^2} \right] \\ .2 = \left[\frac{dP}{dx} = \frac{4}{\sqrt{x}} \right] \\ .3 = \left[\frac{8\sqrt{2}\sqrt{65}}{4225}, 0.022 \right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

$$Ans2 = \begin{bmatrix} .I = [F'(k) = 24] \\ .2 = [F'(k) = -32] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = 120] \\ .2 = \left[F'(k) = \frac{17}{2} \right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .1 = \left[\frac{dP}{dx} = \frac{2}{\sqrt{x}} \right] \\ .2 = \left[\frac{dP}{dx} = \frac{2}{\sqrt{x}} \right] \\ .3 = \left[\frac{24\sqrt{2}\sqrt{31}}{961}, 0.197 \right] \end{bmatrix}, \quad \begin{matrix} t \\ h \\ @ \\ M \\ U \\ T \end{matrix}$$

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$$Ans2 = \begin{bmatrix} .I = [F'(k) = 42] \\ .2 = [F'(k) = -28] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = 240] \\ .2 = \left[F'(k) = \frac{17}{4} \right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .I = \left[\frac{dx}{dt} = \frac{60t}{(5+t^2)^2} \right] \\ .2 = \left[\frac{dP}{dx} = \frac{4}{\sqrt{x}} \right] \\ .3 = \left[\frac{40\sqrt{7}\sqrt{2}}{147}, 1.018 \right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

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$$Ans1 = \left[\begin{array}{ll} .1 = (f(x) = 35 (5x + 7)^6) & .2 = (f(x) = 7 (2x^3 + 2x + 7)^6 (6x^2 + 2)) \\ .3 = \left(f(x) = -\frac{5}{2\sqrt{4-5x}} \right) & .4 = \left(f(x) = -\frac{12x^2}{(4x^3 - 7)^2} \right) \\ .5 = \left(f(x) = -\frac{4(6x^2 + 2)}{(2x^3 + 2x + 3)^5} \right) & .6 = \left(f(x) = \frac{3}{2(2 - 3x)^{(3/2)}} \right) \\ .7 = (f(x) = 7(-5 + 8x)^5 + 40(7x + 4)(-5 + 8x)^4) & .8 = \left(f(x) = -\frac{335(7x + 4)^4}{(-5 + 8x)^6} \right) \end{array} \right]$$

$$Ans2 = \begin{bmatrix} .I = [F'(k) = -8] \\ .2 = [F'(k) = 96] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = 280] \\ .2 = \left[F'(k) = \frac{72}{5}\right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .I = \left[\frac{dx}{dt} = \frac{28t}{(2+t^2)^2}\right] \\ .2 = \left[\frac{dP}{dx} = \frac{1}{\sqrt{x}}\right] \\ .3 = \left[\frac{4\sqrt{3}\sqrt{7}}{243}, 0.075\right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

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