

$$Ans1 = \left[\begin{array}{ll} .1 = (f(x) = 18 (3x + 5)^5) & .2 = (f(x) = 7 (3x^4 - 4x - 4)^6 (12x^3 - 4)) \\ .3 = \left(f(x) = \frac{3}{\sqrt{6x - 5}} \right) & .4 = \left(f(x) = -\frac{49x^6}{(7x^7 + 4)^2} \right) \\ .5 = \left(f(x) = -\frac{5(4x + 2)}{(2x^2 + 2x + 7)^6} \right) & .6 = \left(f(x) = -\frac{3}{2(3x - 4)^{(3/2)}} \right) \\ .7 = (f(x) = 15(5x + 8)^2(6x + 5) + 6(5x + 8)^3) & .8 = \left(f(x) = -\frac{69(5x + 8)^2}{(6x + 5)^4} \right) \end{array} \right]$$

$$Ans2 = \begin{bmatrix} .I = [F'(k) = -16] \\ .2 = [F'(k) = 24] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = 180] \\ .2 = \left[F'(k) = \frac{156}{49} \right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .1 = \left[\frac{dx}{dt} = \frac{16t}{(1+t^2)^2} \right] \\ .2 = \left[\frac{dP}{dx} = \frac{1}{\sqrt{x}} \right] \\ .3 = \left[\frac{2\sqrt{13}}{169}, 0.043 \right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

$$Ans1 = \left[\begin{array}{ll} .1 = (f(x) = 30 (3x - 7)^9) & .2 = (f(x) = 5 (2x^2 + 3x + 3)^4 (4x + 3)) \\ .3 = \left(f(x) = \frac{5}{2\sqrt{5x - 3}} \right) & .4 = \left(f(x) = -\frac{56x^6}{(8x^7 - 7)^2} \right) \\ .5 = \left(f(x) = -\frac{6(4x + 2)}{(2x^2 + 2x + 7)^7} \right) & .6 = \left(f(x) = \frac{1}{(5 - 2x)^{(3/2)}} \right) \\ .7 = (f(x) = 8(2x + 3)^3(5x + 6) + 5(2x + 3)^4) & .8 = \left(f(x) = -\frac{12(2x + 3)^3}{(5x + 6)^5} \right) \end{array} \right]$$

$$Ans2 = \begin{bmatrix} .I = [F'(k) = 0] \\ .2 = [F'(k) = 24] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = 112] \\ .2 = \left[F'(k) = \frac{272}{9}\right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .I = \left[\frac{dx}{dt} = \frac{16t}{(4+t^2)^2}\right] \\ .2 = \left[\frac{dP}{dx} = \frac{2}{\sqrt{x}}\right] \\ .3 = \left[\frac{2\sqrt{2}\sqrt{5}}{25}, 0.253\right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

$$Ans2 = \begin{bmatrix} .I = [F'(k) = 36] \\ .2 = [F'(k) = -40] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = 576] \\ .2 = \left[F'(k) = \frac{624}{25} \right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .I = \left[\frac{dx}{dt} = \frac{96t}{(6+t^2)^2} \right] \\ .2 = \left[\frac{dP}{dx} = \frac{4}{\sqrt{x}} \right] \\ .3 = \left[\frac{96\sqrt{2}\sqrt{31}}{961}, 0.787 \right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

$$Ans2 = \begin{bmatrix} .I = [F'(k) = -10] \\ .2 = [F'(k) = 8] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = 369] \\ .2 = \left[F'(k) = \frac{55}{4} \right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .1 = \left[\frac{dx}{dt} = \frac{42t}{(7+t^2)^2} \right] \\ .2 = \left[\frac{dP}{dx} = \frac{4}{\sqrt{x}} \right] \\ .3 = \left[\frac{56\sqrt{3}\sqrt{71}}{5041}, 0.162 \right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

$$Ans2 = \begin{bmatrix} .I = [F'(k) = -32] \\ .2 = [F'(k) = -24] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = -42] \\ .2 = [F'(k) = 66] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .I = \left[\frac{dx}{dt} = \frac{70t}{(5+t^2)^2} \right] \\ .2 = \left[\frac{dP}{dx} = \frac{1}{\sqrt{x}} \right] \\ .3 = \left[\frac{10\sqrt{3}}{63}, 0.275 \right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

$$Ans2 = \begin{bmatrix} .I = [F'(k) = 12] \\ .2 = [F'(k) = -16] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = 1368] \\ .2 = \left[F'(k) = \frac{189}{8} \right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .I = \left[\frac{dx}{dt} = \frac{60t}{(5+t^2)^2} \right] \\ .2 = \left[\frac{dP}{dx} = \frac{3}{\sqrt{x}} \right] \\ .3 = \left[\frac{10\sqrt{2}\sqrt{3}}{9}, 2.722 \right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

$$Ans2 = \begin{bmatrix} .I = [F'(k) = 4] \\ .2 = [F'(k) = 32] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = 1818] \\ .2 = \left[F'(k) = \frac{819}{32} \right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .I = \left[\frac{dx}{dt} = \frac{64 t}{(4 + t^2)^2} \right] \\ .2 = \left[\frac{dP}{dx} = \frac{4}{\sqrt{x}} \right] \\ .3 = \left[\frac{64 \sqrt{2} \sqrt{29}}{841}, 0.580 \right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

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$$Ans2 = \begin{bmatrix} .1 = [F'(k) = -30] \\ .2 = [F'(k) = -6] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .1 = [F'(k) = 252] \\ .2 = [F'(k) = \frac{28}{3}] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .1 = \left[\frac{dP}{dx} = \frac{1}{\sqrt{x}} \right] \\ .2 = \left[\frac{dP}{dx} = \frac{1}{\sqrt{x}} \right] \\ .3 = \left[\frac{6\sqrt{6}\sqrt{19}}{361}, 0.177 \right] \end{bmatrix}, \quad \begin{bmatrix} t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

$$Ans2 = \begin{bmatrix} .I = [F'(k) = 42] \\ .2 = [F'(k) = -32] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = 290] \\ .2 = \left[F'(k) = \frac{270}{49} \right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .I = \left[\frac{dx}{dt} = \frac{96t}{(6+t^2)^2} \right] \\ .2 = \left[\frac{dP}{dx} = \frac{4}{\sqrt{x}} \right] \\ .3 = \left[\frac{32\sqrt{6}\sqrt{5}}{75}, 2.337 \right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

$$Ans2 = \begin{bmatrix} .I = [F'(k) = 28] \\ .2 = [F'(k) = 4] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = 1460] \\ .2 = \left[F'(k) = \frac{1340}{49}\right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .I = \left[\frac{dx}{dt} = \frac{12t}{(3+t^2)^2}\right] \\ .2 = \left[\frac{dP}{dx} = \frac{4}{\sqrt{x}}\right] \\ .3 = \left[\frac{8\sqrt{6}\sqrt{13}}{507}, 0.139\right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

$$Ans2 = \begin{bmatrix} .1 = [F'(k) = -42] \\ .2 = [F'(k) = 18] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .1 = [F'(k) = 2842] \\ .2 = [F'(k) = \frac{2702}{81}] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .1 = \left[\frac{dP}{dx} = \frac{4}{\sqrt{x}} \right] \\ .2 = \left[\frac{80\sqrt{21}}{441}, 0.831 \right] \end{bmatrix}, \quad \begin{bmatrix} t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

$$Ans2 = \begin{bmatrix} .I = [F'(k) = 6] \\ .2 = [F'(k) = 56] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = 580] \\ .2 = \left[F'(k) = \frac{860}{9} \right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .I = \left[\frac{dx}{dt} = \frac{24 \, t}{(4 + t^2)^2} \right] \\ .2 = \left[\frac{dP}{dx} = \frac{1}{\sqrt{x}} \right] \\ .3 = \left[\frac{8 \sqrt{3} \sqrt{29}}{841}, 0.089 \right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

$$Ans2 = \begin{bmatrix} .I = [F'(k) = 14] \\ .2 = [F'(k) = -8] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = 1840] \\ .2 = \left[F'(k) = \frac{1760}{81} \right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .I = \left[\frac{dx}{dt} = \frac{96t}{(6+t^2)^2} \right] \\ .2 = \left[\frac{dP}{dx} = \frac{2}{\sqrt{x}} \right] \\ .3 = \left[\frac{48\sqrt{2}\sqrt{31}}{961}, 0.393 \right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

$$Ans1 = \left[\begin{array}{ll} .1 = (f(x) = 50 (-2 + 5x)^9) & .2 = (f(x) = 5 (2x^3 + 3x - 3)^4 (6x^2 + 3)) \\ .3 = \left(f(x) = \frac{3}{\sqrt{6x - 5}} \right) & .4 = \left(f(x) = -\frac{12x^5}{(2x^6 - 3)^2} \right) \\ .5 = \left(f(x) = -\frac{6(6x + 4)}{(3x^2 + 4x + 4)^7} \right) & .6 = \left(f(x) = \frac{2}{(7 - 4x)^{(3/2)}} \right) \\ .7 = (f(x) = 12(3x + 7)^3(7x + 2) + 7(3x + 7)^4) & .8 = \left(f(x) = -\frac{172(3x + 7)^3}{(7x + 2)^5} \right) \end{array} \right]$$

$$Ans2 = \begin{bmatrix} .1 = [F'(k) = 14] \\ .2 = [F'(k) = -84] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .1 = [F'(k) = 970] \\ .2 = \left[F'(k) = \frac{475}{32}\right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .1 = \left[\frac{dx}{dt} = \frac{36t}{(3+t^2)^2}\right] \\ .2 = \left[\frac{dP}{dx} = \frac{4}{\sqrt{x}}\right] \\ .3 = [\sqrt{2}, 1.414] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

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$$Ans1 = \left[\begin{array}{ll} .1 = (f(x) = 15 (3x + 2)^4) & .2 = (f(x) = 7 (2x^2 + 2x + 5)^6 (4x + 2)) \\ .3 = \left(f(x) = -\frac{2}{\sqrt{3-4x}} \right) & .4 = \left(f(x) = -\frac{20x^3}{(5x^4 - 3)^2} \right) \\ .5 = \left(f(x) = -\frac{3(8x^3 + 3)}{(2x^4 + 3x - 3)^4} \right) & .6 = \left(f(x) = \frac{4}{(5 - 8x)^{(3/2)}} \right) \\ .7 = (f(x) = 28 (7x - 4)^3 (3x + 7) + 3 (7x - 4)^4) & .8 = \left(f(x) = \frac{244 (7x - 4)^3}{(3x + 7)^5} \right) \end{array} \right]$$

$$Ans2 = \begin{bmatrix} .I = [F'(k) = 0] \\ .2 = [F'(k) = -6] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = 720] \\ .2 = \left[F'(k) = \frac{144}{5}\right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .1 = \left[\frac{dx}{dt} = \frac{14t}{(1+t^2)^2}\right] \\ .2 = \left[\frac{dP}{dx} = \frac{2}{\sqrt{x}}\right] \\ .3 = \left[\frac{\sqrt{7}\sqrt{2}}{125}, 0.030\right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

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$$Ans2 = \begin{bmatrix} .I = [F'(k) = 12] \\ .2 = [F'(k) = 24] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = 2310] \\ .2 = \left[F'(k) = \frac{1085}{32}\right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .I = \left[\frac{dx}{dt} = \frac{8t}{(1+t^2)^2}\right] \\ .2 = \left[\frac{dP}{dx} = \frac{1}{\sqrt{x}}\right] \\ .3 = \left[\frac{4\sqrt{5}}{25}, 0.358\right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

$$\text{Ans1} = \left[\begin{array}{ll} .1 = (f(x) = 42 (7x - 8)^5) & .2 = (f(x) = 5 (4x^3 - 3x - 3)^4 (12x^2 - 3)) \\ .3 = \left(f(x) = -\frac{5}{2\sqrt{7-5x}} \right) & .4 = \left(f(x) = -\frac{28x^6}{(4x^7+5)^2} \right) \\ .5 = \left(f(x) = -\frac{4(6x^2+2)}{(2x^3+2x+7)^5} \right) & .6 = \left(f(x) = -\frac{7}{2(7x-2)^{(3/2)}} \right) \\ .7 = (f(x) = 7(6x+5)^4 + 24(7x+6)(6x+5)^3) & .8 = \left(f(x) = -\frac{4(7x+6)^3}{(6x+5)^5} \right) \end{array} \right]$$

$$Ans2 = \begin{bmatrix} .1 = [F'(k) = -24] \\ .2 = [F'(k) = 0] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .1 = [F'(k) = 336] \\ .2 = \left[F'(k) = \frac{32}{3} \right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .1 = \left[\frac{dx}{dt} = \frac{30t}{(3+t^2)^2} \right] \\ .2 = \left[\frac{dP}{dx} = \frac{4}{\sqrt{x}} \right] \\ .3 = \left[\frac{\sqrt{15}}{3}, 1.291 \right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

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$$Ans2 = \begin{bmatrix} .1 = [F'(k) = -28] \\ .2 = [F'(k) = 12] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .1 = [F'(k) = 210] \\ .2 = \left[F'(k) = \frac{30}{7}\right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .1 = \left[\frac{dx}{dt} = \frac{70t}{(5+t^2)^2}\right] \\ .2 = \left[\frac{dP}{dx} = \frac{2}{\sqrt{x}}\right] \\ .3 = \left[\frac{20\sqrt{3}}{63}, 0.550\right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

$$Ans2 = \begin{bmatrix} .I = [F'(k) = 14] \\ .2 = [F'(k) = 0] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = 340] \\ .2 = \left[F'(k) = \frac{95}{9}\right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .I = \left[\frac{dx}{dt} = \frac{24t}{(2+t^2)^2}\right] \\ .2 = \left[\frac{dP}{dx} = \frac{2}{\sqrt{x}}\right] \\ .3 = \left[\frac{4}{3}, 1.333\right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

$$Ans1 = \left[\begin{array}{ll} .1 = (f(x) = 44 (-3 + 4x)^{10}) & .2 = (f(x) = 3 (2x^3 + 2x + 11)^2 (6x^2 + 2)) \\ .3 = \left(f(x) = \frac{5}{2\sqrt{5x-8}} \right) & .4 = \left(f(x) = -\frac{20x^3}{(5x^4+2)^2} \right) \\ .5 = \left(f(x) = -\frac{4(6x-5)}{(3x^2-5x+5)^5} \right) & .6 = \left(f(x) = \frac{7}{2(5-7x)^{(3/2)}} \right) \\ .7 = (f(x) = 35 (7x-8)^4 (5x+6) + 5 (7x-8)^5) & .8 = \left(f(x) = \frac{410 (7x-8)^4}{(5x+6)^6} \right) \end{array} \right]$$

$$Ans2 = \begin{bmatrix} .1 = [F'(k) = -8] \\ .2 = [F'(k) = 84] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .1 = [F'(k) = -100] \\ .2 = \left[F'(k) = \frac{100}{9}\right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .1 = \left[\frac{dx}{dt} = \frac{42t}{(3+t^2)^2}\right] \\ .2 = \left[\frac{dP}{dx} = \frac{3}{\sqrt{x}}\right] \\ .3 = \left[\frac{18}{7}, 2.571\right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

$$Ans2 = \begin{bmatrix} .I = [F'(k) = -14] \\ .2 = [F'(k) = -64] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = 462] \\ .2 = \left[F'(k) = \frac{201}{32} \right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .1 = \left[\frac{dx}{dt} = \frac{12t}{(2+t^2)^2} \right] \\ .2 = \left[\frac{dP}{dx} = \frac{1}{\sqrt{x}} \right] \\ .3 = \left[\frac{4\sqrt{17}}{867}, 0.019 \right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

$$Ans2 = \begin{bmatrix} .1 = [F'(k) = 16] \\ .2 = [F'(k) = 50] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .1 = [F'(k) = 1332] \\ .2 = \left[F'(k) = \frac{1548}{25} \right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .1 = \left[\frac{dx}{dt} = \frac{30t}{(5+t^2)^2} \right] \\ .2 = \left[\frac{dP}{dx} = \frac{2}{\sqrt{x}} \right] \\ .3 = \left[\frac{5\sqrt{2}}{81}, 0.087 \right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

$$Ans2 = \begin{bmatrix} .I = [F'(k) = -84] \\ .2 = [F'(k) = -36] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = 462] \\ .2 = \left[F'(k) = \frac{54}{7} \right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .1 = \left[\frac{dx}{dt} = \frac{24t}{(3+t^2)^2} \right] \\ .2 = \left[\frac{dP}{dx} = \frac{2}{\sqrt{x}} \right] \\ .3 = \left[\frac{24\sqrt{19}}{361}, 0.290 \right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

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$$Ans1 = \left[\begin{array}{ll} .1 = (f(x) = 64 (8x + 3)^7) & .2 = (f(x) = 4 (3x^4 - 5x - 5)^3 (12x^3 - 5)) \\ .3 = \left(f(x) = \frac{5}{2\sqrt{5x-3}} \right) & .4 = \left(f(x) = -\frac{42x^6}{(6x^7+7)^2} \right) \\ .5 = \left(f(x) = -\frac{7(8x^3+2)}{(2x^4+2x+7)^8} \right) & .6 = \left(f(x) = \frac{5}{2(2-5x)^{(3/2)}} \right) \\ .7 = (f(x) = 24(8x+3)^2(5x-8) + 5(8x+3)^3) & .8 = \left(f(x) = -\frac{237(8x+3)^2}{(5x-8)^4} \right) \end{array} \right]$$

$$Ans2 = \begin{bmatrix} .I = [F'(k) = -16] \\ .2 = [F'(k) = 16] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = 680] \\ .2 = \left[F'(k) = \frac{166}{9} \right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .1 = \left[\frac{dx}{dt} = \frac{16t}{(1+t^2)^2} \right] \\ .2 = \left[\frac{dP}{dx} = \frac{1}{\sqrt{x}} \right] \\ .3 = \left[\frac{2}{125}, 0.016 \right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

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$$Ans1 = \left[\begin{array}{ll} .1 = (f(x) = 48 (8x + 7)^5) & .2 = (f(x) = 5 (3x^2 - 4x - 4)^4 (6x - 4)) \\ .3 = \left(f(x) = -\frac{7}{2\sqrt{4-7x}} \right) & .4 = \left(f(x) = -\frac{25x^4}{(5x^5 - 7)^2} \right) \\ .5 = \left(f(x) = -\frac{7(6x^2 + 2)}{(2x^3 + 2x + 5)^8} \right) & .6 = \left(f(x) = -\frac{1}{(2x - 3)^{(3/2)}} \right) \\ .7 = (f(x) = 12 (3x + 7)^3 (8x + 3) + 8 (3x + 7)^4) & .8 = \left(f(x) = -\frac{188 (3x + 7)^3}{(8x + 3)^5} \right) \end{array} \right]$$

$$Ans2 = \begin{bmatrix} .I = [F'(k) = -8] \\ .2 = [F'(k) = 0] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = 1330] \\ .2 = \left[F'(k) = \frac{615}{32} \right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .1 = \left[\frac{dx}{dt} = \frac{20t}{(5+t^2)^2} \right] \\ .2 = \left[\frac{dP}{dx} = \frac{3}{\sqrt{x}} \right] \\ .3 = \left[\frac{5\sqrt{3}}{81}, 0.107 \right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

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$$Ans2 = \begin{bmatrix} .I = [F'(k) = 60] \\ .2 = [F'(k) = -48] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = 390] \\ .2 = \left[F'(k) = \frac{310}{49} \right] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .1 = \left[\frac{dx}{dt} = \frac{60t}{(5+t^2)^2} \right] \\ .2 = \left[\frac{dP}{dx} = \frac{4}{\sqrt{x}} \right] \\ .3 = \left[\frac{40\sqrt{6}\sqrt{41}}{1681}, 0.373 \right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

$$Ans I = \left[\begin{array}{ll} .1 = (f(x) = 55 (5x - 4)^{10}) & .2 = (f(x) = 7 (2x^2 + 2x + 11)^6 (4x + 2)) \\ .3 = \left(f(x) = -\frac{4}{\sqrt{5 - 8x}} \right) & .4 = \left(f(x) = -\frac{56x^6}{(8x^7 + 7)^2} \right) \\ .5 = \left(f(x) = -\frac{5(4x + 2)}{(2x^2 + 2x + 7)^6} \right) & .6 = \left(f(x) = -\frac{5}{2(5x - 8)^{(3/2)}} \right) \\ .7 = (f(x) = 9(3x + 7)^2(7x + 4) + 7(3x + 7)^3) & .8 = \left(f(x) = -\frac{111(3x + 7)^2}{(7x + 4)^4} \right) \end{array} \right]$$

$$Ans2 = \begin{bmatrix} .I = [F'(k) = 48] \\ .2 = [F'(k) = -4] \end{bmatrix}, \quad Ans3 = \begin{bmatrix} .I = [F'(k) = -24] \\ .2 = [F'(k) = 8] \end{bmatrix}, \quad Ans4 = \begin{bmatrix} .I = \left[\frac{dx}{dt} = \frac{16t}{(2+t^2)^2} \right] \\ .2 = \left[\frac{dP}{dx} = \frac{1}{\sqrt{x}} \right] \\ .3 = \left[\frac{8\sqrt{51}}{2601}, 0.022 \right] \end{bmatrix}, \quad \begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}$$

[illegible]