F’(x) =2.7x^2 -2.8(0.4)+3=1.464

F’’(0.4) =5.4(0.4)-2.8=0.96

F’’’(0.4)=5.4

$f(0.5) \approx f(0.4) + f'(0.4)(0.5-0.4) + \frac{f''(0.4)}{2!}(0.5-0.4)^2 + \frac{f'''(0.4)}{3!}(0.5-0.4)^3$

$f(0.5) \approx (0.9(0.4)3-1.4(0.4)2+3(0.4)-4)+(1.464)(0.1)+ \frac{0.96}{2}(0.1)2+ \frac{5.4}{6}(0.1)3$

$f(0.5) \approx (0.9(0.064)-1.4(0.16)+1.2-4)+(0.1464)+ \frac{0.048}{2} + \frac{0.054}{6}$

$f'(x)=1.4e_x-3.2$

$f''(x)=1.4e_x$

$f'''(0.5)=1.4e_{0.5}$

$f(0.55) \approx f(0.5) + f'(0.5)(0.55-0.5) + \frac{f''(0.5)}{2!}(0.55-0.5)^2 + \frac{f'''(0.5)}{3!}(0.55-0.5)^3$

$f(0.55) \approx (1.4e^{0.5}-3.2) + (1.4e^{0.5})(0.05) + \frac{(1.4e^{0.5})}{2}(0.05)^2 + \frac{(1.4e^{0.5})}{6}(0.05)^3$

$f(0.55) \approx (1.4e^{0.5}-3.2) + (1.4e^{0.5})(0.05) + \frac{(1.4e^{0.5})}{2}(0.0025) + \frac{(1.4e^{0.5})}{6}(0.000125)$

$f(0.55) \approx (1.4e^{0.5}-3.2) + (0.07e^{0.5}) + \frac{0.07e^{0.5}}{2}(0.0025) + \frac{0.07e^{0.5}}{6}(0.000125)$

$f(0.55) \approx (1.4e^{0.5}-3.2) + (0.07e^{0.5}) + \frac{0.07e^{0.5}}{2}(0.0025) + \frac{0.07e^{0.5}}{6}(0.000125)$

$(0.55) \approx (1.4 \times 1.6487 - 3.2) + (0.07 \times 1.6487) + \frac{0.07 \times 1.6487}{2}(0.0025) + \frac{0.07 \times 1.6487}{6}(0.000125)$

$f(0.55) \approx (2.30818-3.2) + (0.115409) + \frac{0.115409}{2}(0.0025) + \frac{0.115409}{6}(0.000125)$

$f(0.55) \approx (-0.89182) + (0.115409) + (0.00014426125) + (0.00000480871)$

$f(0.55) \approx -0.775267 + 0.00014426125 + 0.00000480871$

$f(0.55) \approx -0.775118$