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Course: Math 101 A04 Spring 2022

Assignment: HW-7 [Sections 10.7 & 10.8]

22. Find the Taylor polynomials of order 0, 1, 2, and 3 generated by f at a .

$$f(x) = \sqrt{x}, a = 100$$

The Taylor polynomial with order 0 is $P_0(x) = 10$.

The Taylor polynomial with order 1 is $P_1(x) = 10 + \frac{x - 100}{20}$.

The Taylor polynomial with order 2 is $P_2(x) = 10 + \frac{x - 100}{20} - \frac{(x - 100)^2}{8000}$.

The Taylor polynomial with order 3 is $P_3(x) = 10 + \frac{x - 100}{20} - \frac{(x - 100)^2}{8000} + \frac{(x - 100)^3}{1600000}$.