

12.12 Remainder Thm.

a) Approximate f by a Taylor polynomial with degree n at the number a

b) Use Taylor's Inequality to estimate the accuracy of the approximation $f(x) \approx T_n(x)$ when x lies in the given interval.

13. $f(x) = \sqrt{x}$ $a = 4$ $n = 2$ $4 \leq x \leq 4.2$

14. $f(x) = x^{-2}$ $a = 1$ $n = 2$ $0.9 \leq x \leq 1.1$ In notes

15. $f(x) = x^{2/3}$ $a = 1$ $n = 3$ $0.8 \leq x \leq 1.2$

16. $f(x) = \cos(x)$ $a = \pi/3$ $n = 4$ $0 \leq x \leq 2\pi/3$

18. $f(x) = \ln(1+2x)$ $a = 1$ $n = 3$ $0.5 \leq x \leq 1.5$

20. $f(x) = x \ln x$ $a = 1$ $n = 3$ $.5 \leq x \leq 1.5$