Unit 14: Taylor approximations

Vocabulary and notation

linear	quadratic	cubic	Taylor polynomial
quartic	quintic	$P_0, P_1, P_2, \ldots$	Maclaurin polynomial
			Mean Value Theorem

Skills

- Know Definition 13.2 of the Taylor polynomials P_n, and the alternate definition as the the best fitting degree-n polynomial.
- Know how to compute the degree-n approximation $P_n(x)$ corresponding to any function f that you know how to differentiate.
- Know these computing shortcuts: sums, products, quotients, compositions, term by term integration.
- Be familiar with the list of common Maclaurin polynomials in Table 13.10.
- Know that composing Taylor polynomials requires the second one not have a constant term.
- Know the statement of Taylor's theorem with remainder. Really! This includes filling in the hypotheses completed in class discussion.
- Be familiar with how one deals with not knowing the "mysterious c" when computing bounds via Taylor's theorem.
- Know the conclusion of the mean value theorem and recognize how to use it in an application.