Class 25

Friday November 6

Applications of Derivatives: Newton's Method

Yesterday in lab you were introduced to Newton's Method for finding the roots of a function $f(x)$ by solving $f(x) = 0$. There are lots of times when it is useful to have to do this.

Example

Find the local extrema of $g(t) = \dfrac{t^4}{4} - \dfrac{1}{2}t^2 + t - 1$ on [-2,2]

Ways In Which Newton's Method Can Fail

Try solving the equation $x^3 - 5x = 0$ using $x_0 = 1$ as your first guess in Newton's Method

What happens? If you try a guess different from $x_0 = 1$ do you get a different result?

ANNOUNCEMENTS

Homework: *CiC page 289–290, # 2, 7 and 8* Due Mon November 9.

Reading: *CiC* READ 280–293 and *HH* READ 602–604

Reminder: Exam 3 is scheduled for **Monday November 23** in class

The FINAL EXAM in Math 110 is scheduled for Thursday December 10 6:30-9:30 pm