

AP:

Homework
10/23-10/27

due: Tuesday: read pp. 187-193

1. pg. 194 / #47
2. Determine the critical numbers of each function:
 - a. $f(x) = x^3 + x^2 - 8x + 5$
 - b. $h(x) = \begin{cases} x^2, & x \leq 0 \\ 2x, & x > 0 \end{cases}$
3. Find the absolute extrema on the given interval:
 - a. $f(x) = x^2 - x - 12, [-4, 4]$
 - b. $y(x) = x^4 - 10x^2 + 9, [-3, 3]$

Wednesday: read pp. 219-223

pg. 226 / #1a, 4

Thursday:

Pg. 226 / #6, 7, 9

Friday:

1. Find the area of the largest rectangle (with sides parallel to the coordinate axes) that can be inscribed in the region enclosed by the graphs of $f(x) = 18 - x^2$ and $g(x) = 2x^2 - 9$.
2. Two posts, one 12 feet high and the other 28 feet high, stand 30 feet apart. They are to be stayed by two wires, attached to a single stake, running from ground level to the top of each post. Where should the stake be placed to use the least wire?

Monday: read pp. 235-237

1. Use Newton's method to find the positive fourth root of 2 by solving the equation $x^4 - 2 = 0$. Let $x_1 = 1$, find x_3 .
2. A student wishes to approximate $\sqrt{12}$ by using Newton's method to approximate a zero of $f(x) = x^2 - 12$. If the student chooses $x_1 = 4$, find x_3 .
3. pg. 245 / #61

on: Tuesday: test