

11/08/2011

- Turn in HW assignment
 - Highlight # 11, 13, 19, 24, 39
 - Box the entire problem and highlight the answer with highlighter or marker
(NO PENCIL OR PEN)
- Put questions from last night's HW on the dry erase board.
- **Quick Review #1 and #2 are due TOMORROW.**

11/08/2011

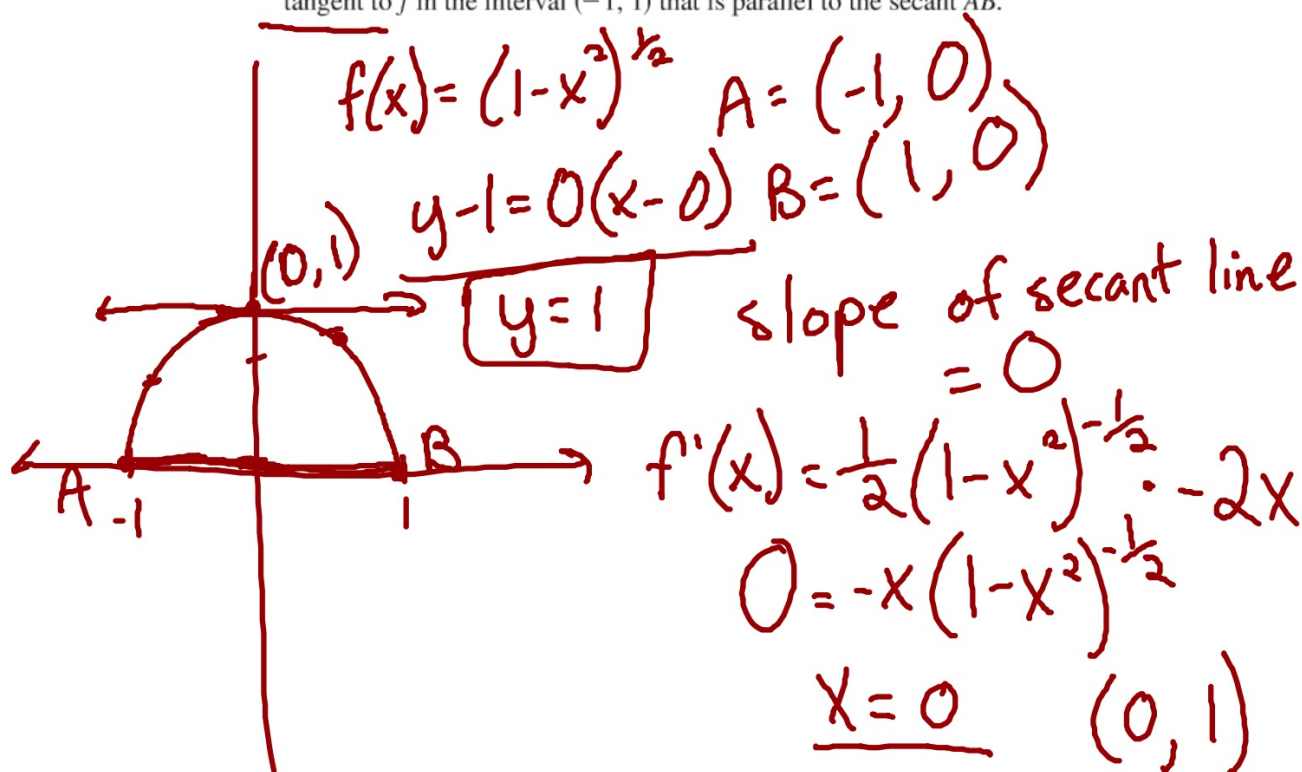
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4.2 - The Mean Value Theorem

- Applying the Mean Value Theorem
- Interpreting the Mean Value Theorem

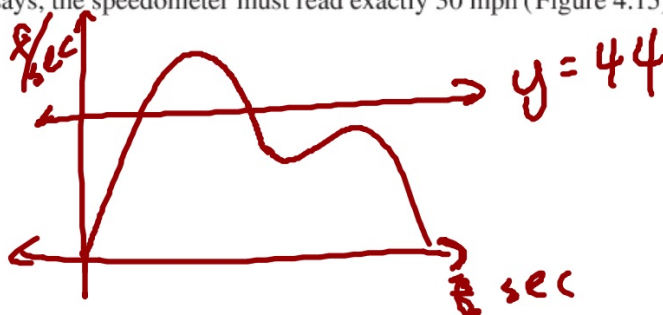
EXAMPLE 3 Applying the Mean Value Theorem

Let $f(x) = \sqrt{1-x^2}$, $A = (-1, f(-1))$, and $B = (1, f(1))$. Find a tangent to f in the interval $(-1, 1)$ that is parallel to the secant AB .



EXAMPLE 4 Interpreting the Mean Value Theorem

If a car accelerating from zero takes 8 sec to go 352 ft, its average velocity for the 8-sec interval is $352/8 = 44$ ft/sec, or 30 mph. At some point during the acceleration, the theorem says, the speedometer must read exactly 30 mph (Figure 4.15).



12. **Temperature Change** It took 20 sec for the temperature to rise from 0°F to 212°F when a thermometer was taken from a freezer and placed in boiling water. Explain why at some moment in that interval the mercury was rising at exactly $10.6^{\circ}\text{F}/\text{sec}$.

Since avg ROC $\frac{212^{\circ}}{20} = 10.6^{\circ}\text{F}/\text{sec}$, then by the MVT the rate of change must be $10.6^{\circ}\text{F}/\text{sec}$ at some time in the interval.

HW - p.202 #9-14

Reminder Again - QR #1 and #2 due tomorrow