Recitation #7 - 3.1 Introducing the Derivative (Teaching Guide)

Students have discussed finding the derivative at a point but have not yet discussed finding the derivative as a function.

Note to students that now we have returned to the problem of finding the slope of a tangent line that we suspended in chapter 2. Now we are more prepared to formally (rather than intuitively) find these limits.

Warm up:

- *5 minutes*: Ask students to think about the Warm-up as they are waiting for class to begin. Then discuss the Warm-Up as a class when class begins.

Problem 1:

- *5 minutes*: Allow students to work on #1 in groups, and then discuss as a class. There are interactive figures in the ebook in mymathlab that go along with the two graphs in #1. You can show the secant line approaching the tangent line. Allow students to voice their interpretations of the two graphs.

Problem 2:

- *7 minutes*: Allow students to work on problem (2a) in groups.
- *3 minutes*: Allow a group to present their solution.
- *20 minutes*: Do the same for parts (b) and (c).

Problem 3:

- *7 minutes*: Allow students to work on problem #3 in groups.
- *8 minutes*: Discuss problem 3 as a class. Really emphasize the definition of the absolute value function in part (b). Part (c) is a great time to review sided limits as well.