

**Math 162****Quiz 6**

Show all work in a neat and organized fashion. Clearly indicate your answers.  
10 points possible.

1. (3 pts.) Which of the lines drawn on the graph below are *not* tangent lines?

2. (3 pts.) Let  $W(t)$  be the number of words per minute (wpm) that a student in a typing class can type after  $t$  weeks in the course.

Select the sentence that best gives an interpretation of the following:

$$W'(30) = 25$$

A. During the first 30 weeks of the course, the student's typing speed increased at a rate of 25 wpm per week, on average.

B. When the student was 30 weeks into the course, the student was typing 25 wpm.

C. When the student was typing 30 wpm, the student was 25 weeks into the course.

D. When the student was 30 weeks into the course, the student's typing speed was increasing at a rate of 25 wpm per week.

E. When the student's typing speed was 30 wpm, the number of weeks into the course was increasing at a rate of 25 weeks per wpm.

F. When the student was 25 weeks into the course, the student's typing speed was increasing at a rate of 30 wpm per week.

G. During the first 25 weeks of the course, the student's typing speed increased at a rate of 30 wpm per week, on average.

3. (4 pts.) The graph below shows United States exports from 1983 through 1993.

(a) Carefully draw a tangent line at 1985.

(b) Estimate the instantaneous rate of change in 1985. Give correct units!

(c) Estimate the derivative in 1985. Give correct units!