Section 3.9: Related Rates

(1) In this section, we see examples of using the rate of change of one quantity to find the rate of change of another related quantity. When we are doing a related rates problem, what variable are we taking the derivative with respect to? Why?

(2) What role does the chain rule play in a related rates problem? Explain with an example.

(3) When doing a related rates problem, we are often given values for various unknown quantities. Which values can you plug in before taking the derivative and which do you have to wait to plug in?

(4) It is often useful to have a set of steps that you follow when doing these types of problems. What steps will you use when doing related rates problems?

(5) As you are working through the problems in this section, you will need to use various mathematical expressions/ideas to relate the varibles in the problems. Make a list of the expressions/ideas you use here. Be sure to include details of the ones you are not completely comfortable with. (e.g. similar triangles, pythagorean theorem)

Extra Practice in Book: 3.9: (all exercises in this section are good practice, I especially recommend:)1,3,5,7,11,15,20