Written Assignment #9
Due Date: Thursday, October 15
10 points

On written assignments (like exams), all work must be shown to get full credit.

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Problem 1. Air is pumped into a balloon at a rate of 10 cm³/s. How fast is the radius of the balloon expanding when the radius is 6 cm?

How do we solve a related rates problem?

1. Draw a good picture.
   i. Label anything which changes with a variable.
   ii. Label the rates of changes of those variables.

2. Define all of the variables from the picture.

3. Find an equation which relates all of the variables to one another.

4. Implicitly differentiate both sides of the equation and solve for the desired quantity.

5. Plug in the values at the specific time we are interested in.

6. Answer the question.