

Due 10 Oct, at start of recitation. Write up your solution carefully, including units.

1. Water is flowing at the rate of $50 \text{ m}^3/\text{min}$ from a shallow concrete conical reservoir (vertex down) of base radius 45 m and height 6 m.
 - (a) How fast (in centimeters per minute) is the water level falling when the water is 5 m deep?
 - (b) How fast (in centimeters per minute) is the radius of the water's surface changing then?

Be sure to draw a relevant picture and define your variables (in a sentence or two).