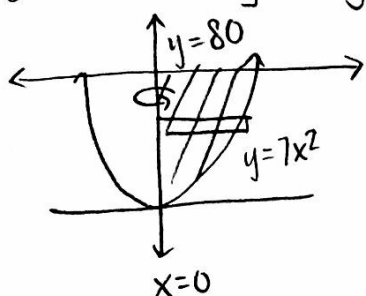


## Quiz 8

February 12, 2016

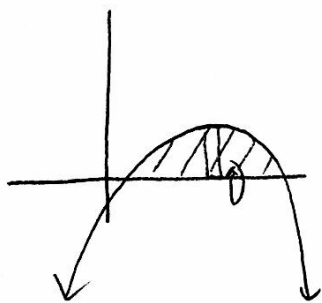
1. Set up the integral which gives the volume of the solid generated by revolving the region bounded by  $y = 7x^2$ ,  $x = 0$ , and  $y = 80$  about the  $y$ -axis.  $\rightarrow$   $dy$  integral



$$x = \sqrt{\frac{1}{7}y}$$

$$\int_{y=0}^{y=80} \pi \left( \sqrt{\frac{1}{7}y} \right)^2 dy$$

2. Set up the integral which gives the volume of the solid generated by revolving the region bounded by  $y = -3 + 4x - x^2$  and the  $x$ -axis about the  $x$ -axis.  $\rightarrow$   $dx$  integral



$$\begin{aligned} -3 + 4x - x^2 &= 0 \\ x^2 - 4x + 3 &= 0 \\ (x-3)(x-1) &= 0 \\ x &= 1, 3 \end{aligned}$$

$$\int_{x=1}^{x=3} \pi (-3 + 4x - x^2)^2 dx$$