CW 7.1-7.2: Area Between Two Curves and Disk/Washer

For # 1:

a) Give a sketch of the region desired

b) Set up the integral to find the area with respect to x

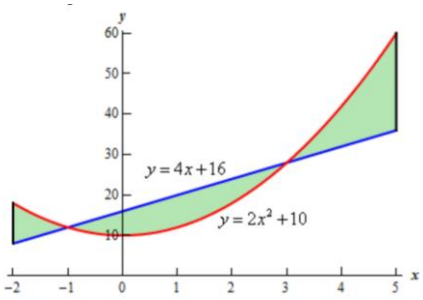
c) Set up the integral to find the area with respect to y

d) Find the area using either your set up in part b) or c).

1. Area enclosed by $y = x^2$ and $y = \sqrt{x}$.

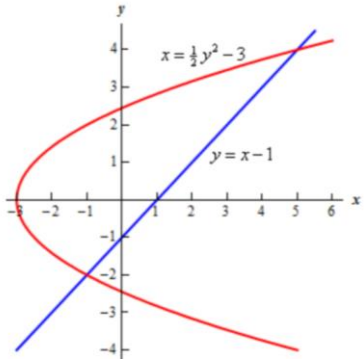
2. Determine the area of the region enclosed by $y = 2x^2 + 10, y = 4x + 16, x = -2,$ and $x = 5$. (Sketch is given)

(**Do this only with respect to x**)



3. Set up the integral to find the area of the region enclosed by $x = \frac{1}{2}y^2 - 3,$ and $y = x - 1$. (Sketch is given)

(**Do this BOTH with respect to x and y**)



4. Find the volume of the solid obtained by rotating the region bounded by $y = 4x$ *and* $y = x^3$ about the x-axis. Assume $x \geq 0$. (Sketch is given)