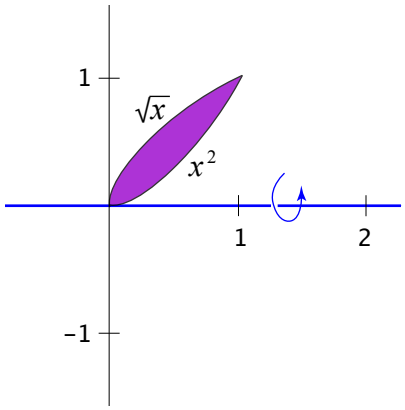
1. Find the volume of the solid formed by rotating the region shown about the x-axis.



2. For each problem, **sketch the solid** formed by rotating the region enclosed by the curves whose equations are given

   (i) about the x-axis;

   (ii) about the line $y = -3$,

   and **set up** an integral for the volume of the solid. (For extra practice later, evaluate the integrals, if you can.)

   (a) $y = \sin x$, $y = 2x$, $x = \dfrac{\pi}{2}$

   (b) **(**)** $y = \dfrac{1}{x}$, $y = \dfrac{1}{x^2}$, $x = 2$

3. For each problem, **sketch the solid** formed by rotating the region enclosed by the curves whose equations are given

   (i) about the y-axis;

   (ii) about the line $x = 36$,

   and **set up** an integral for the volume of the solid. (For extra practice later, evaluate the integrals, if you can.)

   (a) $x = y^2$, $x = 5y + 6$

   (b) **(**)** $\dfrac{x}{3} = y^2$, $y = -\dfrac{1}{3}x + 2$