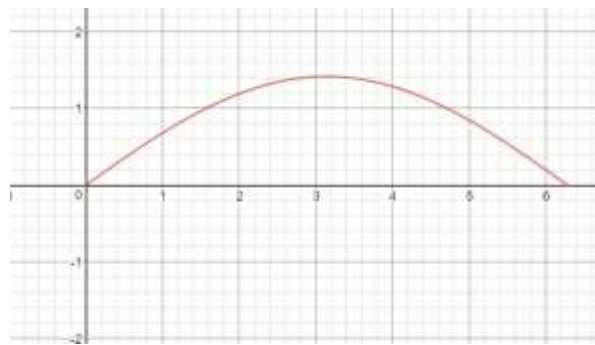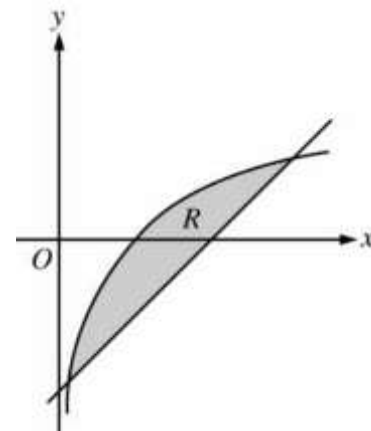I-A5a: *Last Practice Test Ever!*

1. Find the volume of the solid generated by revolving
    the region bounded by $f(x) = \sqrt{1 - \cos x}$ on the
    interval $[0, 2\pi]$ about the x-axis. Evaluate by hand
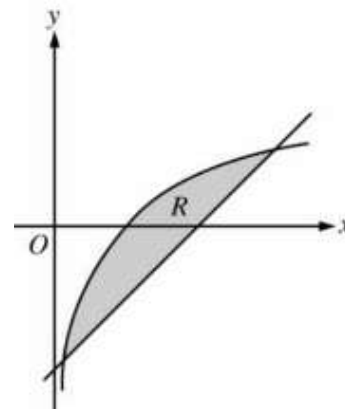   please!

2. R is bound by $y = \ln x$ and $y = x - 2$ as shown. Find the volume of
    the solid generated when revolving R about the horizontal line $y = -3$.
    Set up the integral and evaluate using a calculator.

I-A5b:

3. R is bound by $y = \ln x$ and $y = x - 2$ as shown. Find the volume of the solid generated when
    revolving R about the y-axis. Set up the integral and evaluate using a calculator.

Let S be the first-quadrant region bounded by the functions $h(x) = \frac{x}{5}$, $p(x) = \sqrt{x}$.

I-A5c

4. S is the base of a solid where cross sections taken perpendicular to the x-axis are semicircles. Find the volume of the solid.

5. S is the base of a solid where cross sections taken perpendicular to the y-axis are rectangles with a height that is 4 times longer than the base. Find the volume of the solid.

D-DE3

6. Consider the differential equation $y' = 2y - 8$. Find the general solution y. No calculator.

D-DE2

7. Consider the differential equation $\frac{dy}{dx} = xy^3$. Find the particular solution $y = f(x)$ with initial condition $f(1) = 2$. No calculator allowed.