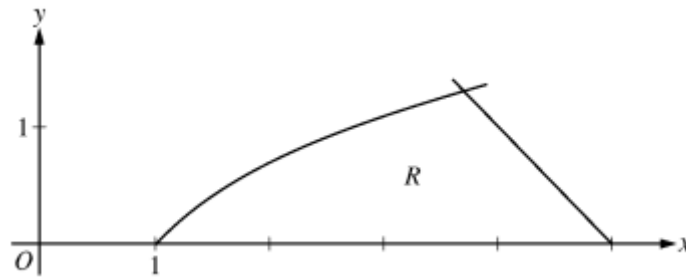


AppOfInt Practice FRQ Test

Name _____

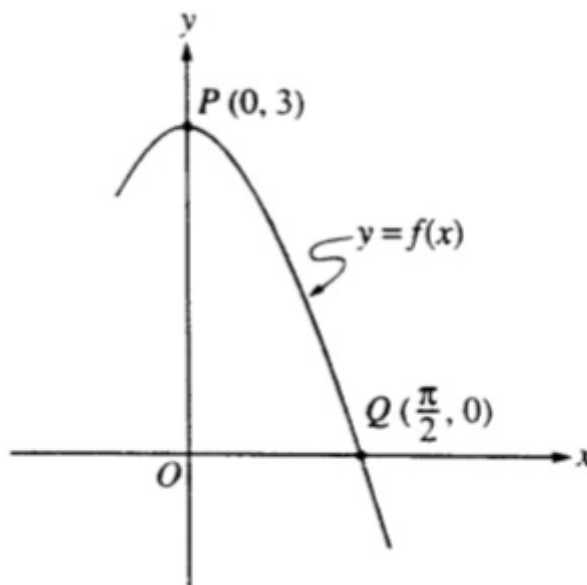


Let R be the region in the first quadrant bounded by the x -axis and the graphs of $y = \ln x$ and $y = 5 - x$, as shown in the figure above.

- The horizontal line $y = k$ divides R into two regions of equal area. Write, but do not solve, an equation involving one or more integrals whose solution gives the value of k .



Please respond on separate paper, following directions from your teacher.



Let f be the function given by $f(x) = 3 \cos x$. As shown above, the graph of f crosses the y -axis at point P and the x -axis at point Q .



AppOfInt Practice FRQ Test

2. Let R be the region in the first quadrant bounded by the graph of f and line segment PQ . Write an integral expression for the volume of the solid generated by revolving the region R about the x -axis. Do not evaluate.



Please respond on separate paper, following directions from your teacher.

Let f and g be the functions given by $f(x) = e^x$ and $g(x) = \ln x$.

3. Find the volume of the solid generated when the region enclosed by the graphs of f and g between $x = \frac{1}{2}$ and $x = 1$ is revolved about the line $y = 4$.



Please respond on separate paper, following directions from your teacher.
