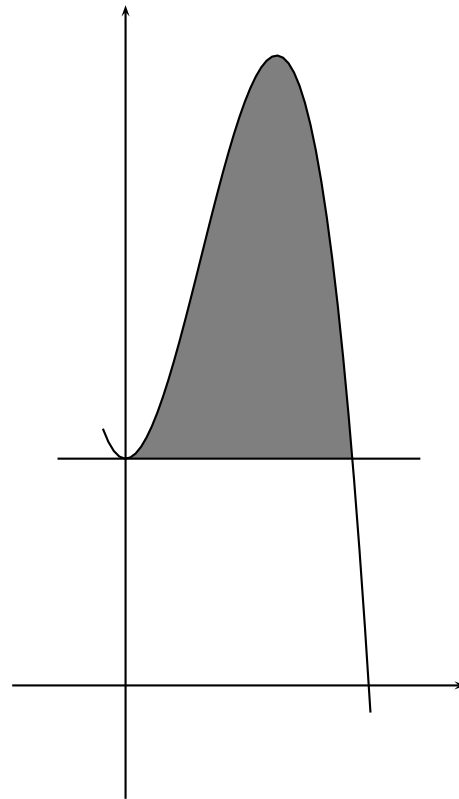


Name: _____

(20 points total)

1. (10 points) The region R which lies in the first quadrant below the curve $y = 12(x^2 - x^3) + 1$ and above the line $y = 1$ is sketched below. Give a definite integral which computes the volume of the solid generated by revolving R about the line $x = -2$. Do not evaluate the integral.



2. (10 points) Find the length of the curve $x = (y^4/4) + 1/(8y^2)$, $1 \leq y \leq 2$.
(Hint: $1 + (dx/dy)^2$ is a perfect square.)