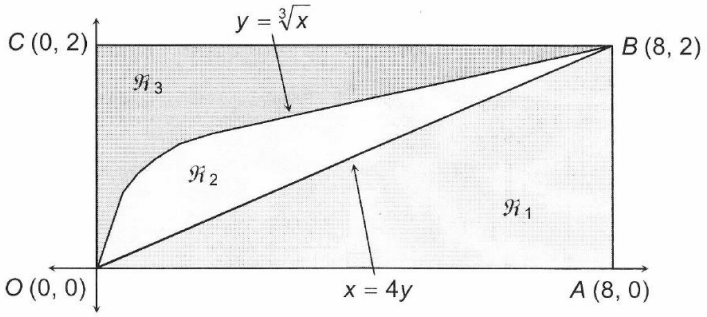
AP Calculus Name_____

Area & Volume Day 6 App of Int Pd.____



Find the area of the given region.

1. $\mathcal{R}_1$	2. $\mathcal{R}_2$	3. $\mathcal{R}_3$

Find the volume generated by rotating the given region about the given line

4. $\mathcal{R}_1$ about OA	5. $\mathcal{R}_1$ about AB	6. $\mathcal{R}_1$ about OC
7. $\mathcal{R}_2$ about OA	8. $\mathcal{R}_2$ about OC	9. $\mathcal{R}_2$ about line $y = -5$
10. $\mathcal{R}_3$ about AB	11. $\mathcal{R}_3$ about BC	12. $\mathcal{R}_3$ about OC

Area & Volume Continued Application of Integration Day 6

Let $\mathcal{R}$ be the region bounded by the curves $y = \frac{1}{\sqrt{x}}$, $y = 1$, and $x = 4$.

a.) Find the area of $\mathcal{R}$.

b.) Suppose the line $x = k$ divides $\mathcal{R}$ into two regions of equal area. Find the value of k.

c.) Find the volume of the solid generated by revolving $\mathcal{R}$ about the $y - axis$.

d.) Find the volume of the solid generated by revolving $\mathcal{R}$ about the line $y = 2$.

e.) Find the volume of the solid whose base is the region $\mathcal{R}$ and whose cross sections cut by perpendicular planes to the $x - axis$ are equilateral triangles.