The region bounded by $y = \sqrt{x-1}$, y = x-3 and y = 0 is revolved around the line x = -3. SCORE: _____/ 6 PTS Write, <u>BUT DO NOT EVALUATE</u>, a <u>SINGLE</u> integral for the volume of the solid.







The region bounded by $y = x^2$ and y = 4x - 3 is revolved around the line y = 10.



SCORE:

/ 9 PTS

A solid is created by revolving a region around an axis of revolution. Sketch the region and find the equation of SCORE: / 4 PTS the axis of revolution if the volume of the solid is $\pi \int ((3 - \sqrt{y})^2 - (3 - \frac{1}{2}y)^2) dy$. BONUS POINT IF YOU REALIZED $X = \sqrt{y'} \rightarrow y = X^2$ ORDER OF $X = \pm y \rightarrow y = 2x$ SUBTRACTION WAS REVERSED FOR SKETCHING AXIS @ X=3 y=2x $y=x^{2}$ u 11 11 11 FOR SHADING CORRECT REGION LOR SOMEHOW x = 3INDICATING

The base of a solid is the region bounded by $y = \frac{6}{x}$ and y = 8 - 2x. Cross sections perpendicular to the x – axis SCORE: _____ / 5 PTS are semicircles. Write, <u>BUT DO NOT EVALUATE</u>, an integral (or sum of integrals) for the volume of the solid.

 $\frac{6}{x} = 8 - 2x \rightarrow 6 = 8x - 2x^{2}$ $\rightarrow 2x^{2} - 8x + 6 = 0$ $\rightarrow \chi^2 - 4\chi + 3 = 0$ X=1,3 $A = \frac{7}{8}b^{-2}x - \frac{6}{x}$ 풍 (8-2x- \$) dx

