Math 102 - Quiz#2

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Name:

ID No.: Serial No.:

1. Find $\int \frac{\sin^{-1}\left(\frac{x}{2}\right)}{\sqrt{4-x^2}}\,dx$

2. Find the **area** of the region bounded by the curves $y=\ln x$, $x+y=1$ and $y=1$.

3. Find the value of $\int_0^1 \frac{10x+15}{\sqrt{2x^2+6x+1}}\,dx$

4. Find the **volume** of the solid of revolution generated by rotating the region enclosed by the graph of $y^2 = x + 1$ and $x = 0$ around the $x = -2$.

5. The base of a solid is bounded by the curves $y = \sqrt{9 - x^2}$ and $y = 0$. If the cross-sections of the solid perpendicular to the x-axis are squares, then find the **volume** of the solid.

6. Evaluate $\int_0^4 (x - 2)^3 \cos x \, dx$