Problem 1. Find the exact area of the surface obtained by rotating each curve about given axis.

1. $9x = y^2 + 18$ $2 \leq x \leq 6$ about x axis
2. $y = \sin(\pi x)$ $0 \leq x \leq 1$ about x axis
3. $y = 1 - x^2$ $0 \leq x \leq 1$ about y axis
4. $y = \frac{1}{4}x^2 - \frac{1}{2}\ln(x)$ $1 \leq x \leq 2$ about y axis