Worksheet 2
9/7/2023

1. Find the volume of the solid obtained by rotating the region between the curves $y = x^2$, $x = 2$, $y = 4$ about the line $x = -1$. Use both cross section method (washer method) and the shell method.

2. Use substitution to find the integral

$$\int_0^1 x^2\sqrt{1-x^3}dx$$

3. Use integration by parts to find the integral

$$\int_0^\pi x\cos x dx$$