

NAME:

1. Find the volume of the solid formed by rotating about the line $y = 3$ the region enclosed between the curve $x = y^2 - 2y$ and the y -axis. Express the answer as an integral but **do not evaluate it**.

2. A 40 ft cable weighing a total of 120 lbs is lying on the ground. How much work is required to lift one end of the cable to a height of 60 ft?

Bonus: How high is the center of mass of the cable initially and how high is it after raising one end? How much work does it take to raise 120 lbs to the latter height?