

Name _____ Date _____

Instructions: Please show all of your work as partial credit will be given where appropriate, **and** there may be no credit given for problems where there is no work shown. All answers should be completely simplified, unless otherwise stated.

Disk Method

$$V = \pi \int_a^b [f(x)]^2 dx$$

Shell Method

$$V = 2\pi \int_a^b x[f(x)] dx$$

1. Find the area of the region bounded by $y = 6 - x^2$ and $y = 3 - 2x$.

Answer 1: _____

Note: #2 is on the back side!

2. For this problem, **just set up the following volume integrals**. (You do NOT need to evaluate the integrals.)

(a) Find the volume integral for the solid generated by revolving about the x-axis the region bounded by $y = \frac{x^2}{5} + 2$, $x = 1$, and $y = 0$.

Answer 2(a): _____

(b) Find the volume integral for the solid generated by revolving about the y-axis the region bounded by $y = 3x$ and $y = 3x^4$.

Answer 2(b): _____