Math 261 - Lab 23 **The Area Between Two Functions** **Name:** _____

1. Find the area bounded by the graphs of $y = -5\sin(x)$, $y = -\frac{1}{2}x^2 + 5$, $x = 0$, and $x = \pi$.

2. Find the area bounded by the graphs of $y = x$, $y = \frac{1}{x^2}$, $x = 2$.

3. Find the area of the bounded region between the curves $y^2 = 4x$ and $y = 4x - 2$.

4. Find the area of the region bounded by $x = \sin(y)$, $x = 1$, $y = 0$, and $y = \pi$.

5. Set up an integral that can be used to find the area of region bounded by $x = y^{2/3}$ and $x = y^2$ by integrating with respect to (a) x and (b) y. You DO NOT need to evaluate these two integrals.

6. Set up an integral that can be used to find the area bounded between $x = \sqrt[3]{y}$ and $y = 3x^2 - 2x$.
You DO NOT need to evaluate this integral.