

Calculus II

Name: _____

Study Guide 21

Class: _____

Due Date: _____

Score: _____

No Work \Leftrightarrow No Points

Use Pencil Only \Leftrightarrow Be Neat & Organized

-
1. (3 points) Use integration techniques to find the centroid of the region bounded by $y = 2$, $x = 2$, $x = 0$, and $y = 0$. Drawing required.

1. _____

2. (5 points) Use integration techniques to find the centroid of the region bounded by $y = 4$ and $y = x^2$. Drawing required.

2. _____

3. (6 points) Use integration techniques to find the centroid of the region bounded by $y = x$ and $y = x^2$. Drawing required.

3. _____

4. (7 points) Use integration techniques to find the centroid of the region bounded by $x = y^3$, $x + y = 2$ and $y = 0$. Drawing required.

4. _____

5. (8 points) Use integration techniques to find the centroid of the region bounded by $y = e^x$, $y = 0$, $x = 1$, and $x = 2$. Drawing required.

5. _____

6. (5 points) Use the Theorem of Pappus to find the volume of the solid obtained by rotating the region bounded by $(x - 2)^2 + y^2 = 1$ about $x = 0$. Drawing required.

6. _____

7. (8 points) Use the Theorem of Pappus to find the volume of the solid obtained by rotating the triangle with vertices $(2, 3)$, $(2, 5)$, and $(5, 4)$ about $y = 0$. Drawing required.

7. _____

8. (8 points) Use the Theorem of Pappus to find the volume of the solid obtained by rotating the region bounded by $f(x) = 4x - x^2$ and $y = 0$ about $y = -2$. Drawing required.

8. _____