

MTH 1126 Test #2 - 9am Class
SPRING 2022

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Name _____

Instructions. Show CLEARLY how you arrive at your answers.

1. Use the “ $f - g$ ” method to compute the area bounded by the graphs of $f(x) = x^2$ and $g(x) = 3x^2 - 8$.

2. Find the area bounded by the graphs of $f(x) = x^2 - 4$ and $g(x) = -x^2 + 2x$. (Partition the appropriate interval, sketch the i^{th} rectangle, build the Riemann Sum, derive the appropriate integral.)

3. Use the “disc method” to compute the volume of the solid of revolution generated by revolving the region (in the first quadrant) bounded by the graphs of $x = y^{\frac{1}{3}}$, $y = 1$, $y = 8$, and the y -axis, about the y -axis. (For your information: the equation $y = x^3$ is the same as $x = y^{\frac{1}{3}}$.)

Use the “five step method” (partition the interval, sketch the i^{th} rectangle, form the sum, take the limit)

4. Use the “disc method” to compute the volume of the solid of revolution generated by revolving the region bounded by the graphs of $y = x^2$ and $y = 1$ about the line $y = -1$.

Use the “five step method” (partition the interval, sketch the i^{th} rectangle, form the sum, take the limit)