Math 1552, Integral Calculus

Section 5.6: Area Between Curves

1. Find the area bounded by the region between the curves $f(x) = x^3 + 2x^2$ and $g(x) = x^2 + 2x$.

2. Find the area bounded by the region enclosed by the three curves $y = x^3$, $y = -x$, and $y = -1$.

3. Find the area bounded by the curves $y = \cos x$ and $y = \sin(2x)$ on the interval $\left[0, \frac{\pi}{2}\right]$.

4. Find the area of the triangle with vertices at the points (0,1), (3,4), and (4,2). USE CALCULUS.