

7.1 - AREA BETWEEN TWO CURVES

Let f and g be continuous functions such that $f(x) \geq g(x)$ on $[a, b]$. Then the area bounded by $f(x)$ and $g(x)$ on $[a, b]$ is

$$\int_a^b (f(x) - g(x)) dx .$$

Example: Find the area bounded by $y = x + 2$ and $y = -x^2$ on $[-1, 3]$. Sketch a graph and shade the appropriate area.

Example: Find the area bounded by the x -axis and $y = -x^2 + 4x - 8$ on $[-1, 4]$. Sketch a graph and shade the appropriate area.

Example: Find the area bounded by $y = x$ and $y = 2 - x^2$ on $[-1, 3]$. Sketch a graph and shade the appropriate area.

HW # 1 - 4, 7 - 51 (every other odd)