

M1B/Schoenbrun Section 5.1: Area under a curve

For these two problems, draw a diagram of the function below, then calculate the upper and lower area by breaking the interval into 4 parts. Then find the area by using your calculator

1. $f(x) = 2 + x^3, x \in [0, 1]$.

2. $f(x) = \frac{1}{(x+1)^2}, x \in [0, 2]$.

For these three problems, just use the integration function on your calculator.

3. $f(x) = \sqrt{x+1}, x \in [3, 8]$.

4. $f(x) = \frac{1}{2\sqrt{x+1}}, x \in [0, 8]$.

5. $f(x) = (2x^2 + 1)^2, x \in [0, 1]$.

6. Find the area of that portion of the first quadrant which is bounded above by $-x^2 + 8$ and bounded below by $y = x^2$.