1. Find the area of the region under each curve and bounded by $x = 1$ and $x = -2$.

    a) $y = -x + 5$

    b) $y = x^2 + 3$

2. Find the area between $y = -x + 5$ and $y = x^2 + 3$ from $x = 1$ to $x = -2$.

Area Between Curves

Examples

1. Find the area of the region bounded by the graphs of $y = \dfrac{1}{x^2}$, $y = -x$, $x = 1$, and $x = 2$.

2. Find the area of the region bounded by the graphs of $f(x) = \sqrt{3x} + 1$, $g(x) = x + 1$.

3. Find the area of one of the regions bounded by $f(x) = \sin x$ and $g(x) = \cos x$.

4. Find the area of the region bounded by $f(y) = 2y - y^2$ and $g(y) = -y$.