

6.2 – Area Between Curves

Area Between Curves for Functions of x

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

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Find the area of the region bounded by the following curves.

1. $y = \frac{1}{x^2}$, $y = -2$, $x = 1$, $x = 5$

2. $x + 2y = 4$, $y = \sqrt{4 - x}$

3. Re-work #2 with a “ dy ” integral setup

4. $\alpha(x) = \sin x, \beta(x) = x^3 - 2x + 1$

5. $y = 2x, x = y^2 - 2y$

6. $y = \ln x, x = e - y^2$