



Practice – 1

Once you feel confident with the area between curves, complete problems 1 to 4. Check your answers by going to the Solutions tab in Moodle.

Instructions: Answer each of the following practice questions on a separate piece of paper. Step by step solutions are provided under the Solutions tab. You will learn the material more thoroughly if you complete the questions before checking the answers.

1. Find the area between the curves defined by the following functions.
 - a. $y = -x^2 + 4$ and $y = 2x + 1$
 - b. $y = x^3 - 5x^2 + 2x + 8$ and $y = -2x + 8$
2. Find the area bounded by the curve $y = x^2 + 4x - 9$ and the line $y = 2x - 1$ over the interval $-3 \leq x \leq 1$.
3. Find the area enclosed by the curves $y = x^2 - 2x + 5$ and $y = -x^2 + 4x + 1$.
4. Find the area enclosed by the curves $y = \sin x$ and $y = \cos x$ between $x = \frac{\pi}{4}$ and $\frac{5\pi}{4}$.