 Practice – 2

Once you feel confident with families of curves, complete problems 1 to 3. 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. Using various values for the constant C, sketch a family of curves for the general antiderivative of $f(x) = 2x + 1$.

2. Find the equation of the curve passing through the point $(0, 1)$ with a derivative function given by $\dfrac{dy}{dx} = x^3 - 2x^2 - 1$.

3. The slope of a curve is given by $m = 1 - 3x$. Find the equation of the curve passing through the point $(2, -2)$.