MEMORIAL UNIVERSITY OF NEWFOUNDLAND

DEPARTMENT OF MATHEMATICS AND STATISTICS

SECTION 2.4 **Math 1001 Worksheet** WINTER 2025

For practice only. Not to be submitted.

1. Consider the region bounded by the curves $y = \sqrt{2x+4}$ and $y = x + 2$.

   (a) Find the area of the region by integrating with respect to x.

   (b) Find the area of the region by integrating with respect to y.

2. Find the area of the region bounded by the given curves.

   (a) $y = \dfrac{1}{x^2}$ and $y = 2$, on $[1, 2]$

   (b) $y = x^2 + 3x$ and $y = x + 3$

   (c) $y = 2x^2$ and $y = x^4 + 1$

   (d) $y = x^2 + 2$ and $y = \frac{1}{2}x^2 - 2$ on the interval $[-3, 3]$

   (e) $x = y^2 + 1$ and $x = y^4 - 2y^2 - 3$