

MEMORIAL UNIVERSITY OF NEWFOUNDLAND

DEPARTMENT OF MATHEMATICS AND STATISTICS

ASSIGNMENT 6

MATHEMATICS 1001

WINTER 2023

Due: Monday, March 27th at 11:59pm. See the Gradescope Handout for submission information.

Note: You should complete Worksheet 2.4 before you work on this assignment.

1. Consider the region between the line $y = \frac{1}{2}x + 1$ and the semi-parabola $y = \sqrt{x + 2}$.
 - (a) Sketch a graph of the region.
 - (b) Find the area of the region by integrating with respect to x .
 - (c) Find the area of the region by integrating with respect to y .

2. Find the area of the indicated region.
 - (a) The region bounded by $y = 4 - x^2$ and $y = 2x^2 + x - 6$.
 - (b) The region bounded by $y = \frac{1}{x^2}$, $y = 8x$ and the line $y = 1$.