

# MEMORIAL UNIVERSITY OF NEWFOUNDLAND

## DEPARTMENT OF MATHEMATICS AND STATISTICS

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SECTION 2.4

Math 1001 Worksheet

WINTER 2024

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**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)  $y = \frac{1}{x^2}$  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  $x = y^4 - 2y^2 - 3$