# Math 2513 – Summer 2024

## Assignment 5

Due: July 26, 2024 – 11:59PM

Q1 (3) – Are any of the following vector fields conservative? Use the screening to test whether they might be conservative, or whether they definitely are not.

1. (x2 – yx) i + (y2 – xy) j
2. (2xexy + x2yexy) i + (x3exy + 2y) j
3. (2x3y4 + x) i + (2x4y3 + y) j

Q2 (4) – Are any of the following conservative? If so, find the associated potential field.

1. (2xy3z4) i + (3x2y2z4) j + (4x2y3z3) k
2. (2x cos(y) – 2z3) i + (3 + 2yez – x2sin(y)) j + (y2ez – 6xz2) k