Q1) In the following question, use Green’s theorem to write R.H.S of the given line integral as a double integral, showing correct integral limits (Do not evaluate integrals in this question).

(a) \[ \oint_C (-x^4 y^2 + x^2 y^4) \, dy = \]

where C is triangle counterclockwise with vertices A(0,0), B(1,0) and C(1,2).

(b) \[ \oint_C (2y + x^2) \, dx - (3x - 4y^2) \, dy = \]

Where C is closed counter clockwise by \( y = x^2, \text{and} \ x = y^2 \).

Q2) Evaluate the integral using Green’s theorem \( \oint_C 4y \, dx + 5x \, dy \)

Where C is formed by \( y = x^2, \text{and} \ y = 1 \).