1. We carry out the line integral of \( F(x, y) = (x^3 + 4xy)i + (4xy - y^3)j \) from Quiz 9 differently. Using Green’s theorem, set up the line integral of \( F \) along the triangle whose vertices are (0,0), (1, 0), and (0,1), traced counterclockwise, i.e. in the positive orientation and carry out the integral.

2. Find the area enclosed by the ellipse \( \frac{x^2}{a^2} + \frac{y^2}{b^2} = 1 \) using

\[
A = \frac{1}{2} \oint_C xdy - ydx.
\]