① Verify Green's theorem, for $\int_c (x^3 - xy^3)dx + (y^2 - 2xy)d$ where C is the square having the vertices at the points $(0,0)$, $(2,0)$, $(2,2)$ and $(0,2)$.

② Find $\int_c [2x^2 - y^2]dx + (x^2 + y^2)dy$, where C is the boundary of the surface in the xy-plane enclosed by x-axis and semi° circle $y = \sqrt{1-x^2}$.
$$\text{Ans. } \frac{4}{3}$$

③ Evaluate $\int_c (y - \sin x)dx + \cos x\, dy$ where C is the triangle formed by $y = 0$, $x = \frac{\pi}{2}$, $y = \frac{2}{\pi}x$.
$$\text{Ans. } -\left(\frac{\pi}{4} + \frac{2}{\pi}\right)$$