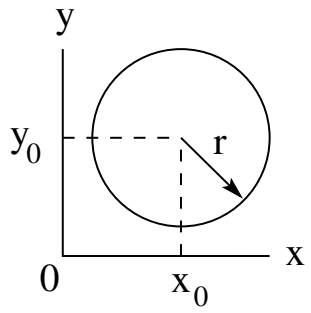
[tex146] Exact and inexact differentials II

(a) Show that the differential $dF_1 = (x+y)dx + ydy$ is inexact. Determine the value of the integral $\oint dF_1$ along the circular path shown in counterclockwise direction.
(b) Show that $dF_2 = (x+y)dx + xdy$ is an exact differential. Determine the function $F_2(x,y)$.



Solution: