a)

By definition, normal cone for a set X at point x is defined in such a way:

$$N_X(x) = \{z | \exists x_k \subset X, \{z_k\}\ s.t.\ z_k \in T_X(x_k)^*, x_k \to x, z_K \to z\}$$

Here $T_X(x)$ is the tangent cone to the set X at point x. It is defined in such a way:

$$T_X(x) = \{0\} \cup \left\{ y \middle| y \neq 0, \exists\{x_k\} \subset X\ s.t.\ x_k \neq x\ and\ x_k \to x, \frac{x_k - x}{\|x_k - x\|} \to \frac{y_k}{\|y\|} \right\}$$

Without losing generality, let x be a point at the origin and circular region C lies in the upper half-plane. Since the tangent cone equals to

$T_X(x) = \{(x, y) | y > 0\}$ the normal cone equals to

$$N_X(x) = \{(x, y) |\ y = 0\}$$

(b)

In case C is rectangular region in R^2, x is point on the boundary, then as in (a)

$$T_X(x) = \{(x, y) | y > 0\}$$

$$N_X(x) = \{(x, y) |\ y = 0\}$$