Suppose $f(x, y) = x^2 + y^2 - 8x - 8y + 1$.

(A) How many critical points does $f$ have in $\mathbb{R}^2$?

<br>

(B) If there is a local minimum, what is the value of the discriminant D at that point? If there is none, type N.

<br>

(C) If there is a local maximum, what is the value of the discriminant D at that point? If there is none, type N.

<br>

(D) If there is a saddle point, what is the value of the discriminant D at that point? If there is none, type N.

<br>

(E) What is the maximum value of $f$ on $\mathbf{R}^2$? If there is none, type N.

<br>

(F) What is the minimum value of $f$ on $\mathbf{R}^2$? If there is none, type N.

Suppose $f(x, y) = x^2 + y^2 - 8x - 8y + 1$.

(A) How many critical points does $f$ have in $\mathbb{R}^2$?

$\boxed{1}$

(B) If there is a local minimum, what is the value of the discriminant D at that point? If there is none, type N.

$\boxed{4}$

(C) If there is a local maximum, what is the value of the discriminant D at that point? If there is none, type N.

$\boxed{N}$

(D) If there is a saddle point, what is the value of the discriminant D at that point? If there is none, type N.

$\boxed{N}$

(E) What is the maximum value of $f$ on $\mathbf{R}^2$? If there is none, type N.

$\boxed{N}$

(F) What is the minimum value of $f$ on $\mathbf{R^2}$? If there is none, type N.

$\boxed{-31}$