1. $f(x,y) = x^6 + y^3 + 6x - 12y + 7$

$f_x \qquad = 6x^5 + 1 + 6 - 1 + 0$

$f_y \qquad = 0 + 3y^2 + 0 - 12 + 0$

$6x^5 + 6 = 0 \Rightarrow x = -1$

$3y^2 - 12 = 0 \Rightarrow y = \sqrt{\frac{12}{3}} \pm 2$

$(-1, -2)$

$(-1, 2)$