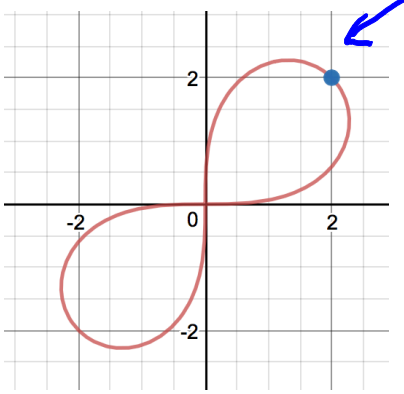
Given $\left(x^2+y^2\right)^2 = 16xy$. Use implicit differentiation to find the equation of the tangent and normal lines at the point (2 , 2) .



$2(x^2+y^2)(2x+2yy') =$

$16xy' + 16y$

when $x = 2$, $y = 2$.

$2(8)(4+4y') = 32y' + 32$

$4 + 4y' = 2y' + 2$

$2 + 2y' = y' + 1$, $y' = -1$.

slope is -1.

$y - y_1 = m(x - x_1)$ point-slope

$y - 2 = -1(x-2)$, $y = -x + 4$

slope of normal line is $+1$.

$y - 2 = 1(x-2)$ & $y = x$.