

$(x^2 + y^2)^2 = 4xy$ implicitly defines $y = y(x)$
near $(1, 1)$. Differentiating implicitly, we
find:

$$2(x^2 + y^2)(2x + 2y y') = 4y + 4x y'$$

Setting $x = 1$, $y = 1$, we get:

$$2(1^2 + 1^2)(2 + 2y') = 4 + 4y'$$

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

$$8 + 8y' = 4 + 4y'$$

$$\boxed{4y' = -4}$$

$$\boxed{y' = -1} \leftarrow$$

So the slope of
the tangent line to
the curve at the point
 $(1, 1)$ is -1