8. $x^2 + y^2 = 25 \quad (2, \sqrt{21})$

① FIND y'

$$\frac{d}{dx}(x^2) + \frac{d}{dx}(y^2) = \frac{d}{dx}(25)$$

$$2x + 2yy' = 0$$

$$2yy' = -2x$$

$$\frac{2yy'}{2y} = \frac{-2x}{2y}$$

$$y' = -\frac{x}{y}$$

$x \quad y$

$(2, \sqrt{21})$

② $m = \frac{-2}{\sqrt{21}}$

$m = \frac{-2}{\sqrt{21}} \cdot \frac{\sqrt{21}}{\sqrt{21}}$

$m = \frac{-2\sqrt{21}}{21}$

③ $y = mx + b$

$\sqrt{21} = \frac{-2\sqrt{21}}{21}(2) + b$

$\sqrt{21} = \frac{-4\sqrt{21}}{21} + b$

$\sqrt{21} + \frac{4\sqrt{21}}{21} = b$

$\frac{\sqrt{21}}{1} + \frac{4\sqrt{21}}{21} = b$

$\frac{21\sqrt{21}}{21} + \frac{4\sqrt{21}}{21} = b$

$\frac{25\sqrt{21}}{21} = b$

④ $y = mx + b$

$y = -\frac{2\sqrt{21}}{21}x + \frac{25\sqrt{21}}{21}$