3, $y = 1/x$ at the point $(3, 1/3)$
$x_1 \quad y_1$

Solu

$x_1 = 3$

$y_1 = 1/3$

$\frac{dy}{dx} = -1/x^2$

$\left.\frac{dy}{dx}\right|_{x=3} = -1/3^2 = -1/9 \therefore m = -1/9$

For tangent

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

$y - 1/3 = -1/9 (x - 3)$

$9y - 3 = x + 3$

$9y - x - 3 - 3 = 0$

$9y - x - 6 = 0$ for tangent

for normal

$y - y_1 = -1/m_1 (x - x_1)$

$y - 1/3 = -1/(1/9) (x - 3)$

$y - 1/3 = 9(x - 3)$

$y - 1/3 = 9x - 27$

$y - 9x - 1/3 + 27 = 0$

$y - 9x + \frac{80}{3} = 0$

$3y - 27x + 80 = 0$ {for normal.