17 $2x + \ln y = x^4 y^3$

$\frac{d}{dx}(2x) + \frac{d}{dx}(\ln y) = \frac{d}{dx}(x^4 y^3)$

$\Rightarrow 2 + \frac{1}{y}\frac{dy}{dx} = x^4 \frac{d}{dx}(y^3) + y^3 \frac{d}{dx}(x^4)$

$\Rightarrow 2 + \frac{1}{y}\frac{dy}{dx} = x^4 \cdot 3y^2 \frac{dy}{dx} + y^3 \cdot 4x^3$

$\Rightarrow \frac{1}{y}\frac{dy}{dx} - 3x^4 y^2 \frac{dy}{dx} = 4y^3 x^3 - 2$

$\Rightarrow \frac{dy}{dx}\left[\frac{1}{y} - 3x^4 y^2\right] = 4x^3 y^3 - 2$

$\Rightarrow \boxed{\frac{dy}{dx} = \frac{4x^3 y^3 - 2}{\frac{1}{y} - 3x^4 y^2}}$

18 $y^3 + xy^2 - 5 = x + 3y^2$, $x = 3$

Put $x = 3$, $y^3 + 3y^2 - 5 = 3 + 3y^2$

$\Rightarrow y^3 = 8$

$\Rightarrow y = 2$

$\therefore$ The point is $(3, 2)$

Find $\frac{dy}{dx}$

$\frac{d(y^3)}{dx} + \frac{d(xy^2)}{dx} - \frac{d(5)}{dx} = \frac{d}{dx}(x) + \frac{d}{dx}(3y^2)$

$3y^2 \frac{dy}{dx} + x\frac{d(y^2)}{dx} + y^2 = 1 + 6y\frac{dy}{dx}$

$3y^2 \frac{dy}{dx} + 2xy\frac{dy}{dx} + y^2 = 1 + 6y\frac{dy}{dx}$

$\frac{dy}{dx}\left[3y^2 - 2xy - 6y\right] = 1 - y^2$

$\frac{dy}{dx} = \frac{1 - y^2}{3y^2 - 2xy - 6y}$

$\therefore \left.\frac{dy}{dx}\right|_{(3,2)} = \frac{1 - 4}{12 - 12 - 12} = \frac{-3}{-12} = \frac{1}{4}$

$(y - 2) = \frac{1}{4}(x - 3)$

$\Rightarrow \boxed{y = \frac{x}{4} + \frac{5}{4}}$