5) $y = 3x^2 - 2x$ at point $(2, 8)$

$x_1 = 2$

$y_1 = 8$

$\frac{dy}{dx} = 6x - 2$

$\left.\frac{dy}{dx}\right|_{x=2}$ $\quad 6(2) - 2 = 12 - 2 = 10$ ~~10 = 10~~

$\therefore m = 10$

for equn of tangent

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

$y - 8 = 10(x - 2)$

$y - 8 = 10x - 20$

$y - 10x - 8 + 20 = 0$

$y - 10x - 12 = 0$

for equn of normal

$y - y_1 = -\frac{1}{m}(x - x_1)$

$y - 8 = -\frac{1}{10}(x - 2)$

$10y - 80 = -x + 2$

$10y - x - 80 - 2 = 0$

$10y - x - 82 = 0$ (equn of normal)