

$$c) y' = 2xy - 5x + y - 3 \quad \text{mid}$$

$$2x \cdot (y-3) + (y-3) = (2x+1)$$

$$\frac{dy}{dx} = (2x+1) \cdot (y-3) \cdot dx$$

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

$$\ln|y-3| = x^2 - 2x + C$$