$$\frac{dy}{dx} = -\frac{ax+by}{bx+cy}$$

$$(ax+by)dx + (bx+cy)dy = 0$$

$$\begin{cases} P_{(x,y)} = ax+by \;\rightarrow\; \dfrac{\partial P}{\partial y} = b \\ Q_{(x,y)} = bx+cy \;\rightarrow\; \dfrac{\partial Q}{\partial x} = b \end{cases} \;=>\; \frac{\partial P}{\partial y} = \frac{\partial Q}{\partial x} \;=>\; exact$$

<u>מש' דיפרנציאלית מדויקת:</u>

$$P(x,y)\,dx + Q(x,y)\,dy = 0$$

$$\frac{\partial P}{\partial y} = \frac{\partial Q}{\partial x}$$ תנאי לכך מדויקת:

הפתרון: $$\int_{x_0}^{x} P(x,y)\,dx + \int_{y_0}^{y} Q(x_0,y)\,dy = 0$$

$$\int_{x_0}^{x} (ax+by)\,dx + \int_{y_0}^{y} (bx_0+cy)dy = 0$$

$$\left[\frac{ax^2}{2} + byx\right|_{x_0}^{x} + \left[bx_0y + \frac{cy^2}{2}\right|_{y_0}^{y} = 0$$

$$\frac{ax^2}{2} + byx - \frac{a{x_0}^2}{2} - byx_0 + bx_0y + \frac{cy^2}{2} - bx_0y_0 - \frac{a{y_0}^2}{2} = 0$$

$$ax^2 + 2byx + cy^2 = d$$