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Akan dicari $M(x,y)$ sedemikian sehingga $M(x,y)dx + (2x^2y^3 + x^4y)dy = 0$ merupakan PD eksak.

Karena $M(x,y)dx + (2x^2y^3 + x^4y)dy = 0$ merupakan PD eksak maka harus dipenuhi :

$$\frac{\partial M(x,y)}{\partial y} = \frac{\partial N(x,y)}{\partial x}$$

$$\frac{\partial M(x,y)}{\partial y} = 4xy^3 + 4x^3y$$

$$\partial M(x,y) = (4xy^3 + 4x^3y)\partial y$$

$$\int \partial M(x,y) = \int (4xy^3 + 4x^3y)\, \partial y$$

$$M(x,y) = xy^4 + 2x^3y^2 + \varphi(y)$$

Jika $\varphi(y) = 0$ maka $M(x,y) = xy^4 + 2x^3y^2$.