voorbeeld 1) $\vec{F}(x,y) = \left(\frac{y}{2}, \frac{x}{2}, -\frac{xy}{2^2} \right)$

$$\vec{\nabla} \times \vec{F} = \begin{vmatrix} i & j & k \\ \frac{\partial}{\partial x} & \frac{\partial}{\partial y} & \frac{\partial}{\partial z} \\ \frac{y}{2} & \frac{x}{2} & -\frac{xy}{2^2} \end{vmatrix}$$

$$= \left(-\frac{x}{2^2} + \frac{x}{2^2}, -\frac{y}{2^2} + \frac{y}{2^2}, \frac{1}{2} - \frac{1}{2} \right) = \vec{0}, \text{ conservatief}$$

$F = \nabla \phi$

$$\frac{\partial f}{\partial x} = \frac{y}{2^2} \cdot \frac{\partial f}{\partial y} = \frac{x}{2^2} \cdot \frac{\partial f}{\partial z} = \frac{1}{2^2}$$

$$\frac{\partial}{\partial x} \phi = \frac{y}{2} \cdot \frac{\partial}{\partial y} \phi = \frac{x}{2} \cdot \frac{\partial}{\partial z} \phi = 0$$