

Answer on Question #68292, Math / Differential Equations

Obtain the partial differential equation by eliminating the arbitrary constant from the relation $u = ax + (1 - a)y + b$.

Solution

Differentiating partially with respect to x and y

$$u_x = \frac{\partial u}{\partial x} = a, u_y = \frac{\partial u}{\partial y} = 1 - a$$

Eliminating a and b we have

$$u_x + u_y = 1$$

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