

Упражнение 2

$$U = x^3 + 3xy^2 + z^2 - 39x - 36y + 2z + 26$$

$$U'_x = 3x^2 + 3y^2 - 39$$

$$U''_{xx} = 6x$$

$$U'_y = 6yx - 36$$

$$U''_{yy} = 6x$$

$$U''_{xy} = 6y \quad \text{и} \quad U''_{yx} = 6y \Rightarrow U''_{xy} = U''_{yx} (6y)$$

$$U'_z = 2z + 2$$

$$U''_{zz} = 2$$