

3489. $2 \frac{\partial^2 z}{\partial x^2} + \frac{\partial^2 z}{\partial x \partial y} - \frac{\partial^2 z}{\partial y^2} + \frac{\partial z}{\partial x} + \frac{\partial z}{\partial y} = 0$, если
 $u = x + 2y + 2$ и $v = x - y - 1$.

3490. $(1 + x^2) \frac{\partial^2 z}{\partial x^2} + (1 + y^2) \frac{\partial^2 z}{\partial y^2} + x \frac{\partial z}{\partial x} + y \frac{\partial z}{\partial y} = 0$,
 если $u = \ln(x + \sqrt{1 + x^2})$ и $v = \ln(y + \sqrt{1 + y^2})$.

3491. $ax^3 \frac{\partial^2 z}{\partial x^2} + 2bxy \frac{\partial^2 z}{\partial x \partial y} + cy^3 \frac{\partial^2 z}{\partial y^2} = 0$ (a, b, c —
 постоянны), если $u = \ln x$ и $v = \ln y$.

3492. $\frac{\partial^2 z}{\partial x^2} + \frac{\partial^2 z}{\partial y^2} = 0$, если

$$u = \frac{x}{x^2 + y^2} \text{ и } v = -\frac{y}{x^2 + y^2}.$$

3493. $\frac{\partial^2 z}{\partial x^2} + \frac{\partial^2 z}{\partial y^2} + m^2 z = 0$, если

$$x = e^u \cos v, \quad y = e^u \sin v.$$

3494. $\frac{\partial^2 z}{\partial x^2} - y \frac{\partial^2 z}{\partial y^2} = \frac{1}{2} \frac{\partial z}{\partial y}$ ($y > 0$), если

$$u = x - 2\sqrt{y} \text{ и } v = x + 2\sqrt{y}.$$

3495. $x^2 \frac{\partial^2 z}{\partial x^2} - y^2 \frac{\partial^2 z}{\partial y^2} = 0$, если $u = xy$ и $v = \frac{x}{y}$.

3496. $x^2 \frac{\partial^2 z}{\partial x^2} - (x^2 + y^2) \frac{\partial^2 z}{\partial x \partial y} + y^2 \frac{\partial^2 z}{\partial y^2} = 0$, если

$$u = x + y \text{ и } v = \frac{1}{x} + \frac{1}{y}.$$

3497. $xy \frac{\partial^2 z}{\partial x^2} - (x^2 + y^2) \frac{\partial^2 z}{\partial x \partial y} + xy \frac{\partial^2 z}{\partial y^2} + y \frac{\partial z}{\partial x} +$
 $+ x \frac{\partial z}{\partial y} = 0$, если $u = \frac{1}{2}(x^2 + y^2)$ и $v = xy$.

3498. $x^2 \frac{\partial^2 z}{\partial x^2} - 2x \sin y \frac{\partial^2 z}{\partial x \partial y} + \sin^2 y \frac{\partial^2 z}{\partial y^2} = 0$, если

$$u = x \operatorname{tg} \frac{y}{2} \text{ и } v = x.$$

3499. $x \frac{\partial^2 z}{\partial x^2} - y \frac{\partial^2 z}{\partial y^2} = 0$ ($x > 0, y > 0$), если

$$x = (u + v)^2 \text{ и } y = (u - v)^2.$$