

CVIČENIA Z PARCIÁLNYCH DIFERENCIÁLNYCH ROVNÍC
DOMÁCA ÚLOHA 8

Nájdite plochu, ktorá vyhovuje danej PDR a prechádza cez danú krivku:

- v utorok príklady s párnym číslom (okrem pr. 970, ktorý bol na cvičení)
- vo štvrtok príklady s nepárnym číslom

$$966. x \frac{\partial z}{\partial x} + y \frac{\partial z}{\partial y} = z - xy; \quad x = 2, \quad z = y^2 + 1.$$

$$967. \operatorname{tg} x \frac{\partial z}{\partial x} + y \frac{\partial z}{\partial y} = z; \quad y = x, \quad z = x^3.$$

$$968. x \frac{\partial z}{\partial x} - y \frac{\partial z}{\partial y} = z^2(x - 3y); \quad x = 1, \quad yz + 1 = 0.$$

$$969. x \frac{\partial z}{\partial x} + y \frac{\partial z}{\partial y} = z - x^2 - y^2; \quad y = -2, \quad z = x - x^2.$$

$$970. yz \frac{\partial z}{\partial x} + xz \frac{\partial z}{\partial y} = xy; \quad x = a, \quad y^2 + z^2 = a^2.$$

$$971. z \frac{\partial z}{\partial x} - xy \frac{\partial z}{\partial y} = 2xz; \quad x + y = 2, \quad yz = 1.$$

$$972. z \frac{\partial z}{\partial x} + (z^2 - x^2) \frac{\partial z}{\partial y} + x = 0; \quad y = x^2, \quad z = 2x.$$

$$973. (y - z) \frac{\partial z}{\partial x} + (z - x) \frac{\partial z}{\partial y} = x - y; \quad z = y = -x.$$

$$974. x \frac{\partial z}{\partial x} + (xz + y) \frac{\partial z}{\partial y} = z; \quad x + y = 2z, \quad xz = 1.$$

$$975. y^2 \frac{\partial z}{\partial x} + yz \frac{\partial z}{\partial y} + z^2 = 0; \quad x - y = 0, \quad x - yz = 1.$$

$$976. x \frac{\partial z}{\partial x} + z \frac{\partial z}{\partial y} = y; \quad y = 2z, \quad x + 2y = z.$$

$$977. (y + 2z^2) \frac{\partial z}{\partial x} - 2x^2z \frac{\partial z}{\partial y} = x^2; \quad x = z, \quad y = x^2.$$

$$978. (x - z) \frac{\partial z}{\partial x} + (y - z) \frac{\partial z}{\partial y} = 2z; \quad x - y = 2, \quad z + 2x = 1.$$

$$979. xy^3 \frac{\partial z}{\partial x} + x^2z^2 \frac{\partial z}{\partial y} = y^3z; \quad x = -z^3, \quad y = z^2.$$

$$980*. x \frac{\partial z}{\partial x} + y \frac{\partial z}{\partial y} = 2xy; \quad y = x, \quad z = x^2.$$