ED en DP:

$$\frac{\partial^2 z}{\partial x^2} + 4\frac{\partial^2 z}{\partial x \partial y} + 4\frac{\partial^2 z}{\partial y^2} = 0$$

$z(x,y) = f(y+mx)$ | $z(x,y) = f(u)$, $u = y+mx$

$$\frac{\partial z}{\partial x} = mf' \qquad \frac{\partial z}{\partial y} = f'$$

$$\frac{\partial^2 z}{\partial x^2} = m^2 f'' \qquad \frac{\partial^2 z}{\partial x \partial y} = mf'' \qquad \frac{\partial^2 z}{\partial y^2} = f''$$

$$m^2 f'' + 4mf'' + 4f'' = 0$$

$$(m^2+4m+4)f'' = 0 \qquad f'' = 0 \qquad f' = k_1 \qquad \boxed{f = k_1(y+mx) + k_2}$$

TRIVIAL

$$m^2+4m+4 = 0$$
$$(m+2)^2 = 0$$
$$m_1 = m_2 = -2$$

$f_1(y-2x)$

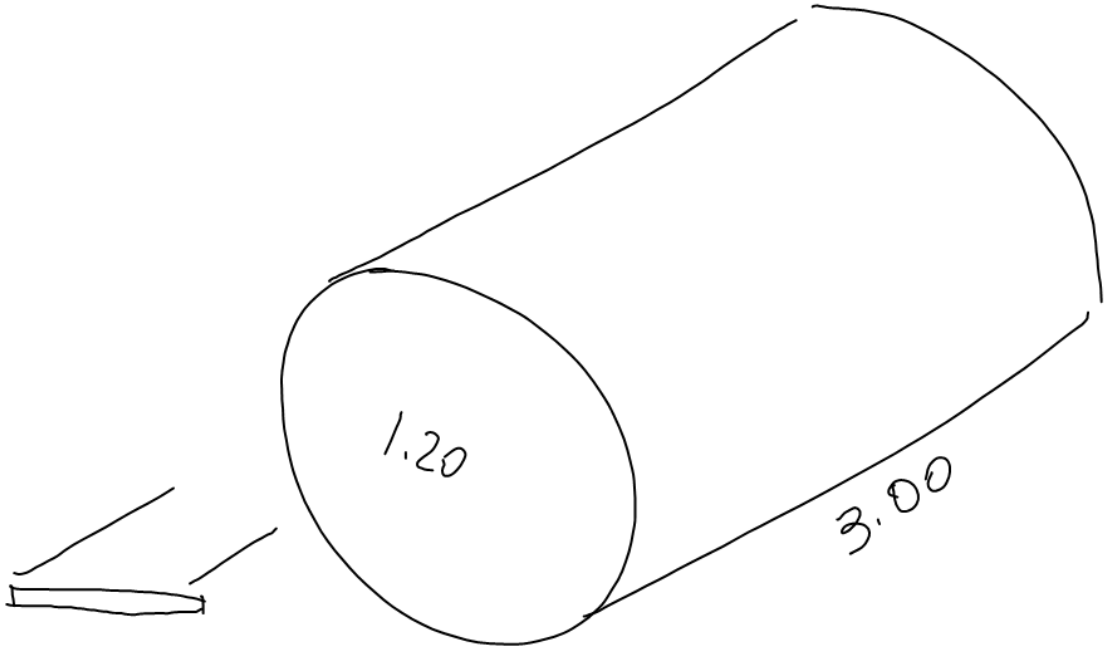
$$z(x,y) = f_1(y-2x) + x f_2(y-2x)$$

$$z(x,y) = f_1(y-2x) + y f_2(y-2x).$$

$$\frac{\partial^2 u(x,y,z)}{\partial x^2} + \frac{\partial^2 u(x,y,z)}{\partial z^2} + \frac{\partial^2 u(x,y,z)}{\partial y^2} = 0$$

$$u(x,y,z) = F(x) \cdot G(y,z)$$

$$\frac{F''(x)}{F(x)} = \frac{\frac{\partial G}{\partial y} \cdot \frac{\partial G}{\partial z}}{y+z}$$


1.20
3.00