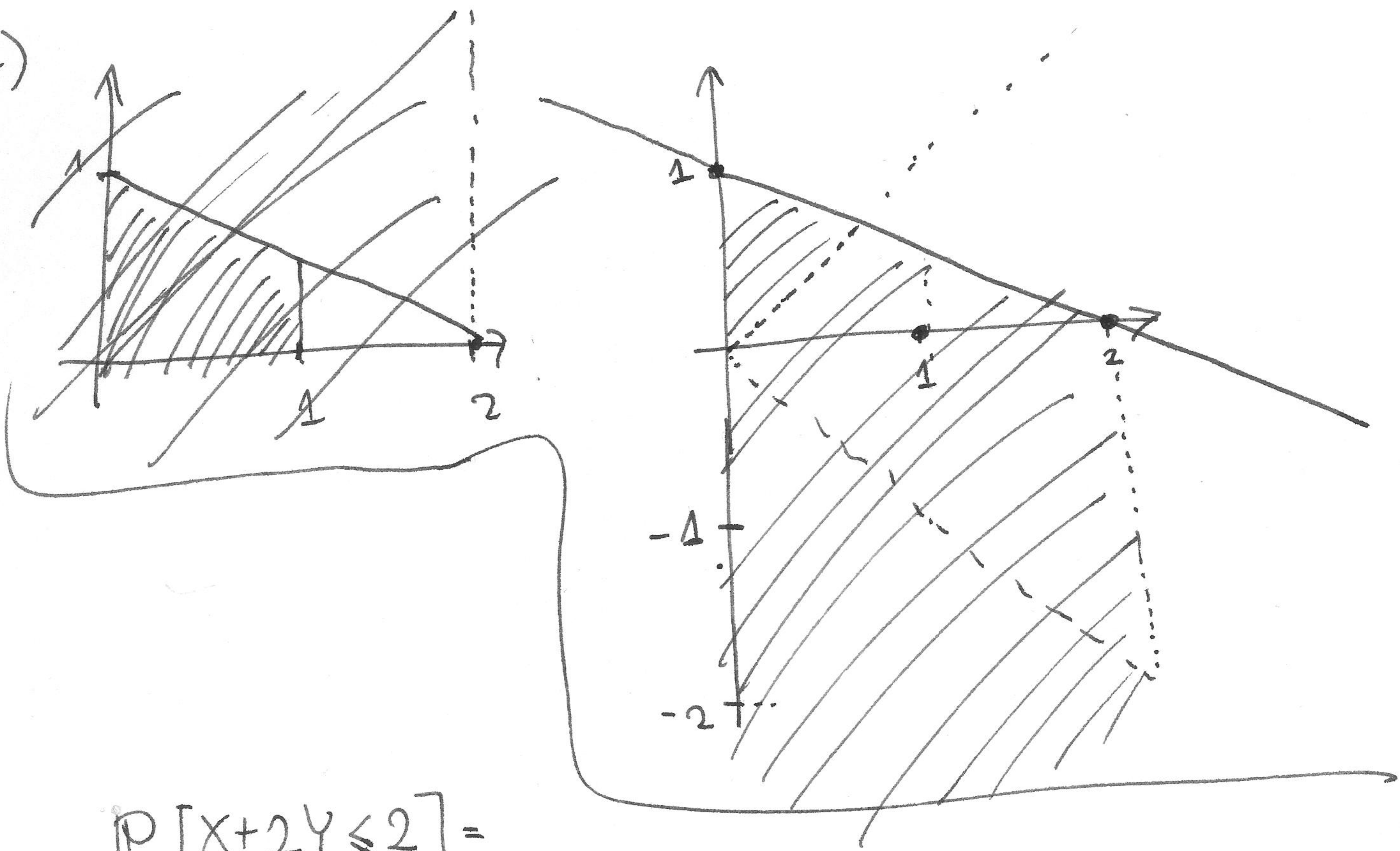


c)



$$P[X+2Y \leq 2] =$$

$$= \int_0^2 \int_{-\frac{x}{2}}^0 \frac{3}{8} x^2 \left[\frac{3}{8} - \frac{3}{32} y^2 \right] dy dx$$

d) $f_X(x) = \frac{3}{8} x^2 \cdot \mathbb{1}_{[0,2]}^{(x)}$, $f_Y(y) = \left[\frac{3}{8} - \frac{3}{32} y^2 \right] \mathbb{1}_{[-2,2]}^{(y)}$

$$P[X, Y \in \dots]$$

X, Y są niezależ. $\Leftrightarrow f_X(x) \cdot f_Y(y) = g(x, y)$,
ale tak nie jest:

$$\frac{3}{8} x^2 \mathbb{1}_{[0,2]}^{(x)} \cdot \left[\frac{3}{8} - \frac{3}{32} y^2 \right] \mathbb{1}_{[-2,2]}^{(y)} =$$

$$= \mathbb{1}_{\{1 \leq x \leq 2\}} \cdot \left[\frac{9}{64} x^2 - \frac{9}{256} x^2 y^2 \right] \neq x \cdot \mathbb{1}_{\{1, \dots, 5\}}^{(x)}$$