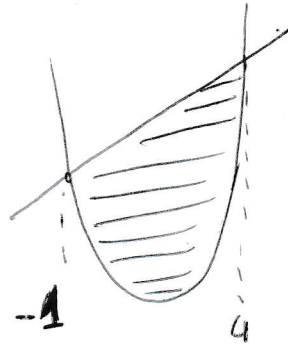


DETERMINARE L'AREA TRA LA RETTA DI EQUAZIONE $y = x+3$
 E LA PARABOLA DI EQUAZIONE $y = x^2 - 2x - 1$

$$\begin{cases} y = x+3 \\ y = x^2 - 2x - 1 \end{cases}$$



$$x+3 = x^2 - 2x - 1$$

$$0 = x^2 - 3x - 4$$

$$x^2 - 3x - 4 = 0$$

$$x_{1,2} = \frac{3 \pm \sqrt{9+16}}{2} \begin{cases} \frac{3+5}{2} = \frac{8}{2} = 4 \\ \frac{3-5}{2} = -\frac{2}{2} = -1 \end{cases}$$

$$\int_{-1}^4 (x+3 - x^2 + 2x + 1) dx = \int_{-1}^4 (-x^2 + 3x + 4) dx =$$

$$\left[-\frac{x^3}{3} + \frac{3x^2}{2} + 4x \right]_{-1}^4 = \left[-\frac{64}{3} + \frac{48}{2} + 16 - \left(-\frac{1}{3} + \frac{3}{2} - 4 \right) \right] =$$

$$= \left[\frac{125}{6} \right]$$