Analytical intersection result.

Let consider an intersection of a plane with analytic representation

$$x + p = 0 \tag{1}$$

and a surface, which is result of revolution a line

$$\begin{cases} x_l = x_l(V) = a_x \cdot V \\ y_l = y_l(V) = b_y \\ z_l = z_l(V) = a_z \cdot V + b_z \end{cases}$$

around Z-axis.
In our case, we have following values of variables:

$$\begin{gathered} p = 25,\ b_y = 25,\ b_z = -25, \\ a_x = -0.447213595499958,\ a_z = 0.894427190999916 \\ a_z / a_x = -2 \end{gathered} \tag{2}$$

Result of revolution is surface

$$\begin{cases} x_s = x_s(U,V) = \sqrt{x_l^2 + y_l^2}\cos U = \sqrt{a_x^2 V^2 + b_y^2}\cos U \\ y_s = y_s(U,V) = \sqrt{x_l^2 + y_l^2}\sin U = \sqrt{a_x^2 V^2 + b_y^2}\sin U \\ z_s = z_s(U,V) = a_z \cdot V + b_z \end{cases}$$

Let us note that

$$\begin{gathered} V = \frac{z_s - b_z}{a_z}; \\ x_s^2 + y_s^2 = a_x^2 V^2 + b_y^2 \\ x_s^2 + y_s^2 = \frac{(z_s - b_z)^2}{\left(a_z / a_x \right)^2} + b_y^2 \\ \frac{x_s^2}{b_y^2} + \frac{y_s^2}{b_y^2} - \frac{(z_s - b_z)^2}{\left(b_y a_z / a_x \right)^2} = 1. \end{gathered} \tag{3}$$

Line (3) is an one-sheet hyperboloid.
Let intersect hyperboloid (3) with plane (1). Intersection result satisfies an equation system

$$\begin{cases} \dfrac{x^2}{b_y^2} + \dfrac{y^2}{b_y^2} - \dfrac{(z - b_z)^2}{\left(b_y a_z / a_x \right)^2} = 1 \\ x + p = 0 \end{cases}$$

or, for our case (see (2)),

$$\begin{cases} \dfrac{x^2}{25^2}+\dfrac{y^2}{25^2}-\dfrac{(z+25)^2}{50^2}=1 \\ x+25=0 \end{cases}$$

From 2[nd] system equation follows $x=-25$. Let substitute it in 1[st] equation.

$$1+\frac{y^2}{25^2}-\frac{(z+25)^2}{50^2}=1$$

$$\frac{y^2}{25^2}-\frac{(z+25)^2}{50^2}=0$$

$$\pm\frac{y}{25}=\frac{z+25}{50}$$

$$z=\pm 2y-25. \tag{4}$$

I.e. as intersection result, we have two lines in given plane (1), which intersect in (–25; 0;–25) point.