

3) $x - y + k = 0$ ~~$x + k = 0$~~

~~$\frac{x^2}{9} + \frac{y^2}{4} = 1$~~ $4x^2 + 9y^2 = 36$

$y = k + x$
 ~~$\frac{x^2}{9} + \frac{(k+x)^2}{4} = 1$~~

$$\begin{cases} y = k + x \\ 4x^2 + 9(k+x)^2 = 36 \end{cases} \quad \begin{cases} y = k + x \\ 4x^2 + 9(k^2 + x^2 + 2kx) = 36 \end{cases}$$

$$\begin{cases} y = k + x \\ 4x^2 + 9k^2 + 9x^2 + 18kx = 36 \end{cases} \quad \begin{cases} 9x^2 \end{cases}$$

$$x^2 \cdot (4 + 9) + x(18k) + 9k^2 - 36 = 0$$

$\Delta \geq 0 \quad (18k)^2 - 4 \cdot (13) \cdot (9k^2 - 36) \geq 0$

$\Delta = 0$
 tangente

$$324k^2 - 468k^2 + 1872 = 0$$

$$-144k^2 + 1872 = 0$$

$k > \pm \sqrt{13}$ SECANTE

$\Delta > 0 \quad 144k^2 > 1872$

$k = \pm \sqrt{13}$ TANGENTE

$k^2 > 13$

$k < \pm \sqrt{13}$ ESTERNA

$k < \pm \sqrt{13}$

