⑥ $\frac{x^2}{15} + \frac{y^2}{10} = 1$ $\quad y = x$ $\quad m = 1$

$$\begin{cases} \frac{x^2}{15} + \frac{y^2}{10} = 1 \\ y - y_1 = m(x - x_1) \end{cases} \qquad \begin{cases} \frac{x^2}{15} + \frac{y^2}{10} = 1 \\ y = x + q \end{cases}$$

$$\begin{cases} \frac{x^2}{15} + \frac{3x^2 + q^2 + 2qx}{10} = 1 \cdot 15 \cdot 2 \\ \end{cases} \rightarrow (\text{moltiplico per } 15)$$

$$2x^2 + 3x^2 + 3q^2 + 6qx - 30 = 0$$

$$5x^2 + 6qx - 30 + 3q^2 = 0$$

$$\Delta = 0 \qquad 36q^2 - 60q^2 + 600 = 0$$

$$24q^2 = 600$$

$$q = \pm\sqrt{25} = \pm 5$$