



$$\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$$

$$\overline{PF_1} + \overline{PF_2} = \text{constante}$$

$$\overline{PF_1} + \overline{PF_2} = 2a$$

$$\frac{y^2}{3} = 15 - 5x^2 \quad 3y^2 = 15 - 15x^2$$

$$3y^2 - 15 + 15x^2 = 0$$

$$3y^2 + 15x^2 = 15$$

$$\frac{y^2}{5} + x^2 = 1$$

$$x^2 + \frac{y^2}{5} = 1$$

$$c = \sqrt{b^2 - a^2}$$

$$c = 2 \quad F_1(0; 2) \quad F_2(0; -2)$$

$$e = \frac{c}{b} = \frac{2}{\sqrt{5}}$$

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$$\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$$

$$\frac{x^2}{2k+3} + \frac{y^2}{3-k} = 1$$

$$a^2 = 2k+3$$

$$b^2 = 3-k$$

$$\begin{cases} 2k+3 > 0 \\ 3-k > 0 \end{cases}$$

$$F_1(-\sqrt{a^2-b^2}; 0)$$

$$F_2(\sqrt{a^2-b^2}; 0)$$

$$\begin{cases} \frac{2k}{2} > -\frac{3}{2} \\ k < 3 \end{cases}$$

$$-\frac{3}{2} < k < 3$$

$$2k+3 = 3-k$$

$$3k = 0$$

$$k = 0$$

$$e = 0$$