

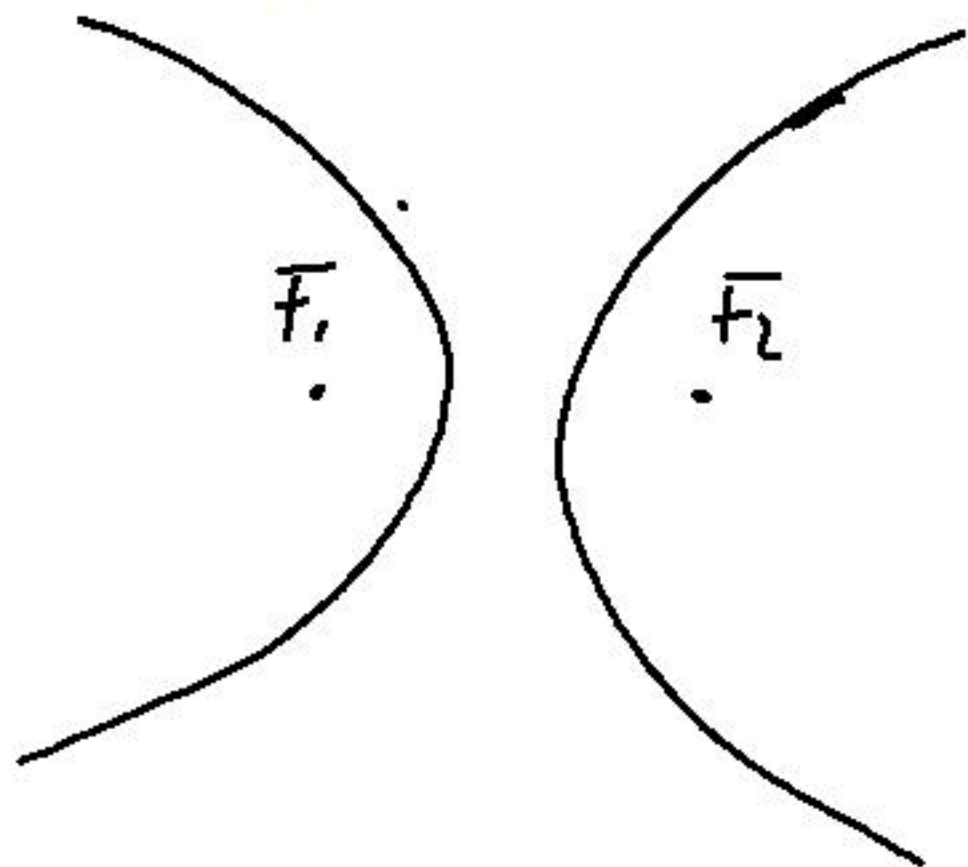
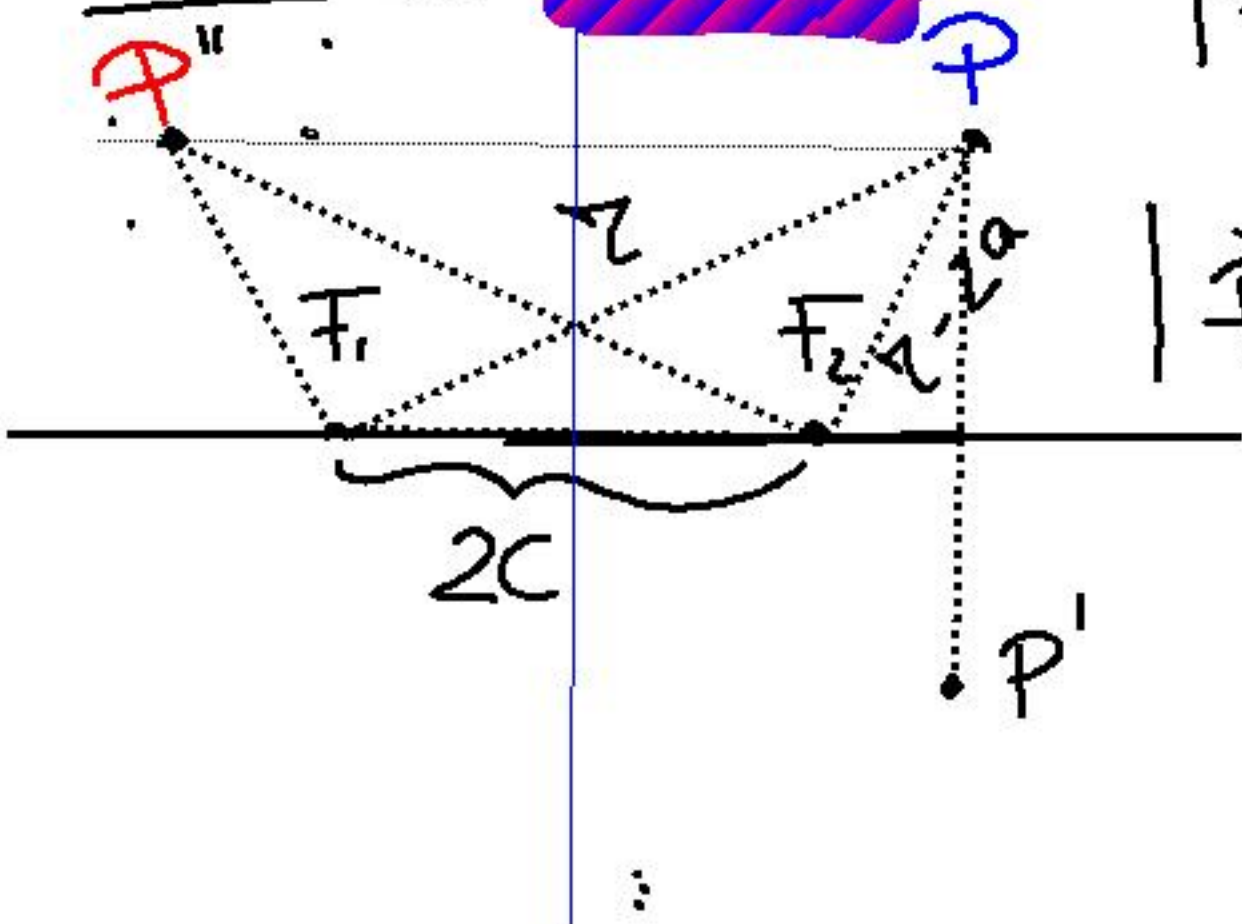
IPERBOLE

$$a < c$$

$$|\overline{PF_1} - \overline{PF_2}| = 2a \quad \underline{\text{CONSTANTE}}$$

$$|\overline{PF_1} - \overline{PF_2}| < 2c$$

$$\begin{aligned} \overline{F_2 P'} &= \overline{F_2 P} \\ \overline{F_2 P''} &= \overline{P F_1} \\ \overline{F_1 P''} &= \overline{F_2 P} \end{aligned}$$



$$|\overline{PF_1} - \overline{PF_2}| = 2a$$

$$|\sqrt{(x+c)^2 + y^2} - \sqrt{(x-c)^2 + y^2}| = 2a$$

$P(x, y)$

$$\sqrt{(x+c)^2 + y^2} - \sqrt{(x-c)^2 + y^2} = \pm 2a$$



$$\sqrt{(x+c)^2 + y^2} = \pm 2a + \sqrt{(x-c)^2 + y^2}$$

$$(x+c)^2 + y^2 = 4a^2 \pm 4a\sqrt{(x-c)^2 + y^2} + (x-c)^2 + y^2$$

$$4xc = 4a^2 \pm 4a\sqrt{(x-c)^2 + y^2}$$

$$(xc - a^2) = (\pm a\sqrt{(x-c)^2 + y^2})$$

$$x^2c^2 + a^4 - 2a^2cx = a^2(x^2 + c^2 - 2xc + y^2)$$

$$x^2c^2 + a^4 - 2acx = a^2(x^2 + c^2 - 2xc + y^2)$$

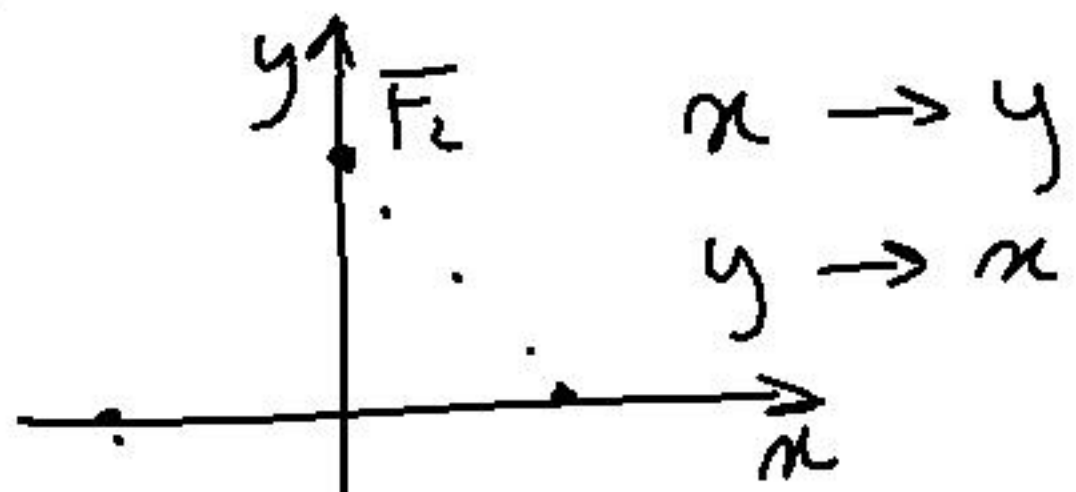
$$x^2c^2 + a^4 - \cancel{2acx} = a^2x^2 + a^2c^2 - \cancel{2acx} + y^2a^2$$

$$x^2(c^2 - a^2) - y^2a^2 = a^2(c^2 - a^2)$$

$$c^2 - a^2 = b^2$$

$$x^2b^2 - y^2a^2 = a^2b^2$$

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



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

