

# CARATTERISTICHE DELL'IPERBOLE



M3043

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$$\frac{x^2}{25} - \frac{y^2}{9} = 1$$

$$a = 5$$

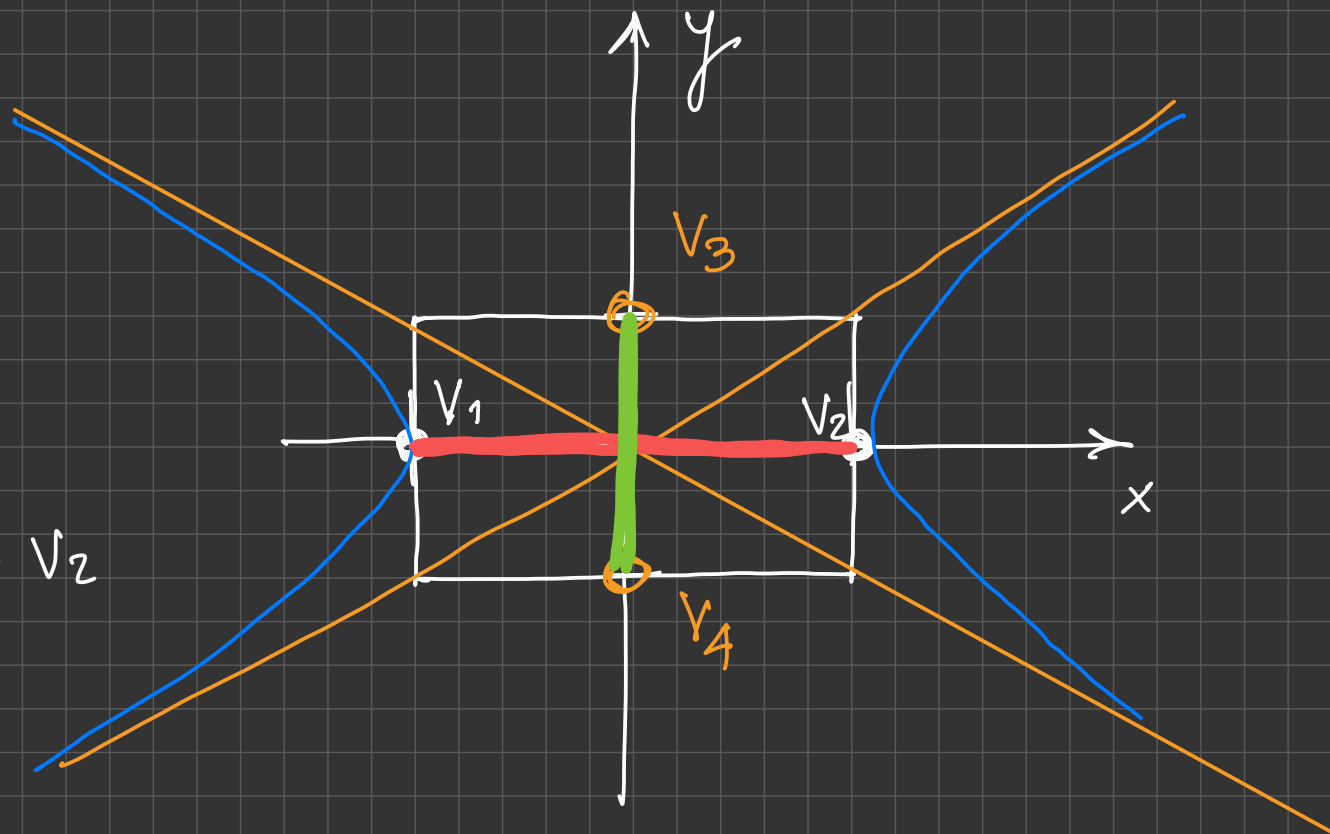
$$b = 3$$

Vertici Reali  $V_1 - V_2$

$$V_1(-5; 0) \quad V_2(5; 0)$$

vertici non reali

$$V_3(0; 3) \quad V_4(0; -3)$$



ASSE TRASVERSO  $2a$  distanza tra i vertici reali

ASSE NON TRASVERSO  $2b$  distanza tra i vertici non reali

$$\frac{x^2}{25} - \frac{y^2}{16} = -1$$

GLI ASINTOTI  
cioè le diagonali

$$y = mx + \text{?}$$

$$m = ?$$

$$m = \frac{\Delta y}{\Delta x}$$

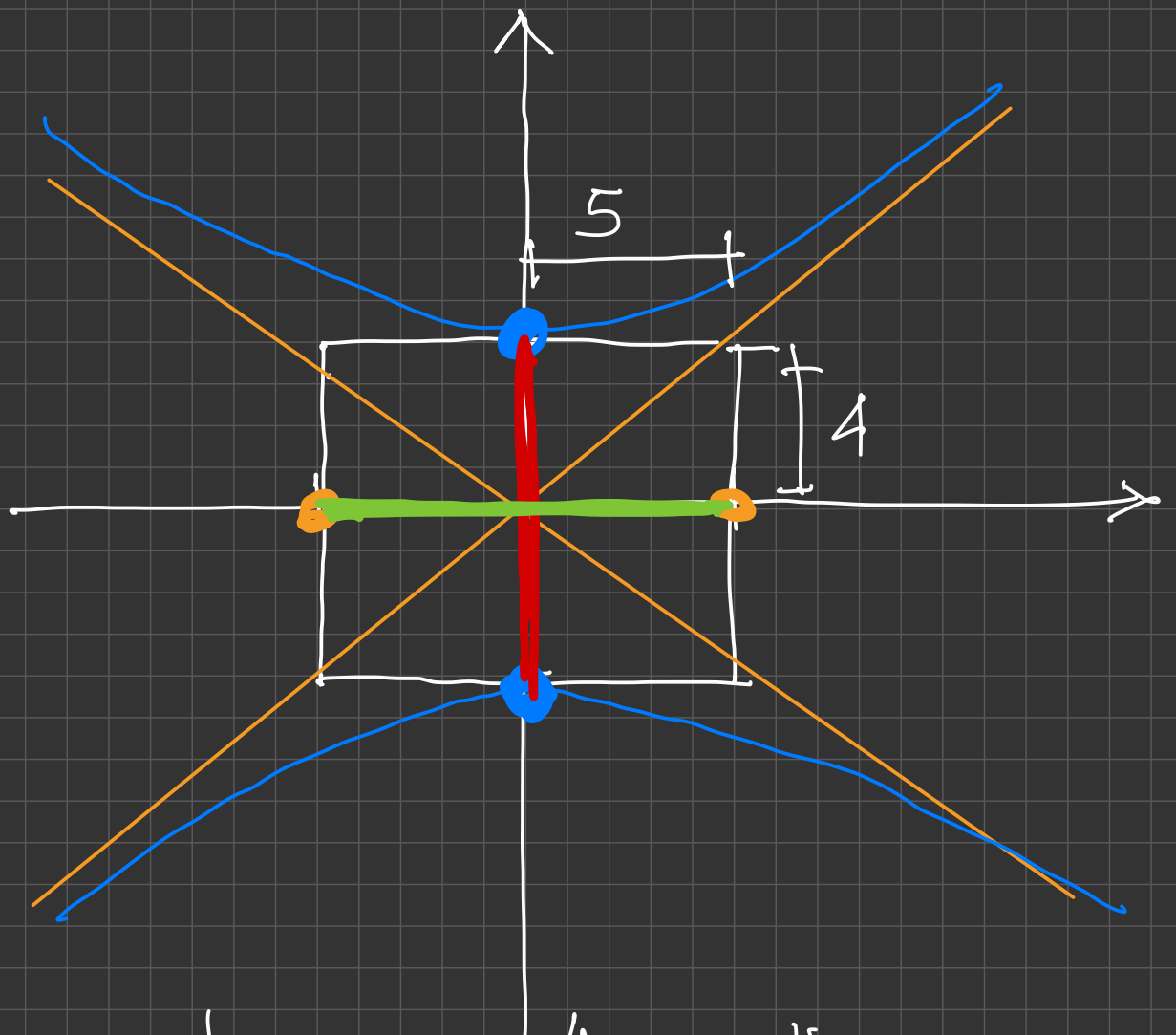
retta crescente

retta decrescente

$$y = \frac{4}{5}x$$

$$y = -\frac{4}{5}x$$

ASINTOTI



CRESCENTE

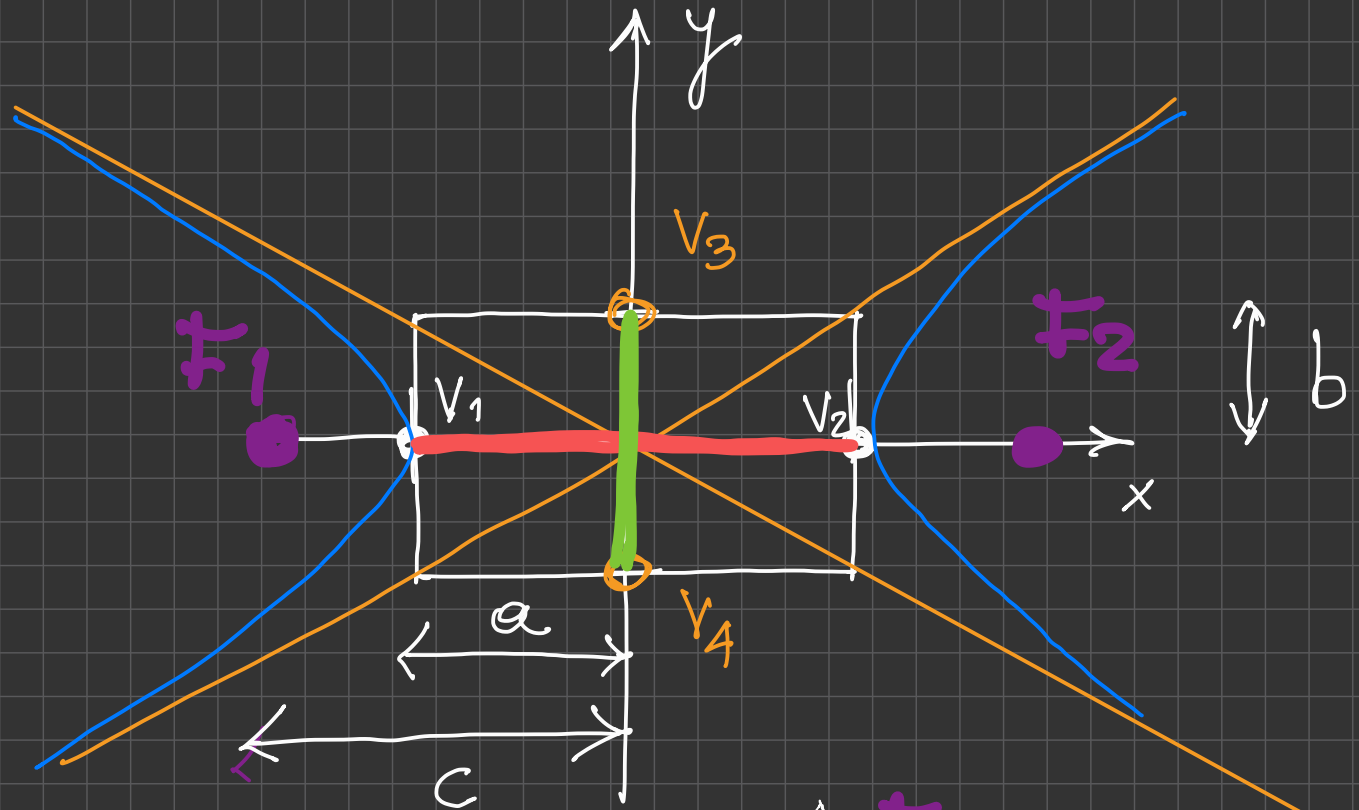
$$y = \frac{b}{a} x$$

DECRESCENTE

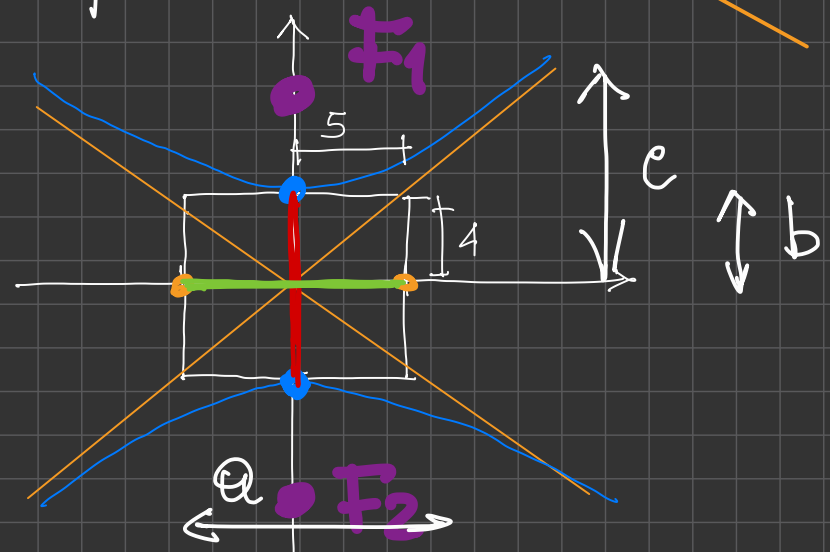
$$y = -\frac{b}{a} x$$

FUOCHI

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



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



Quali coord. ha il fuoco di

$$\frac{x^2}{25} - \frac{y^2}{9} = 1$$

$$a = 5$$

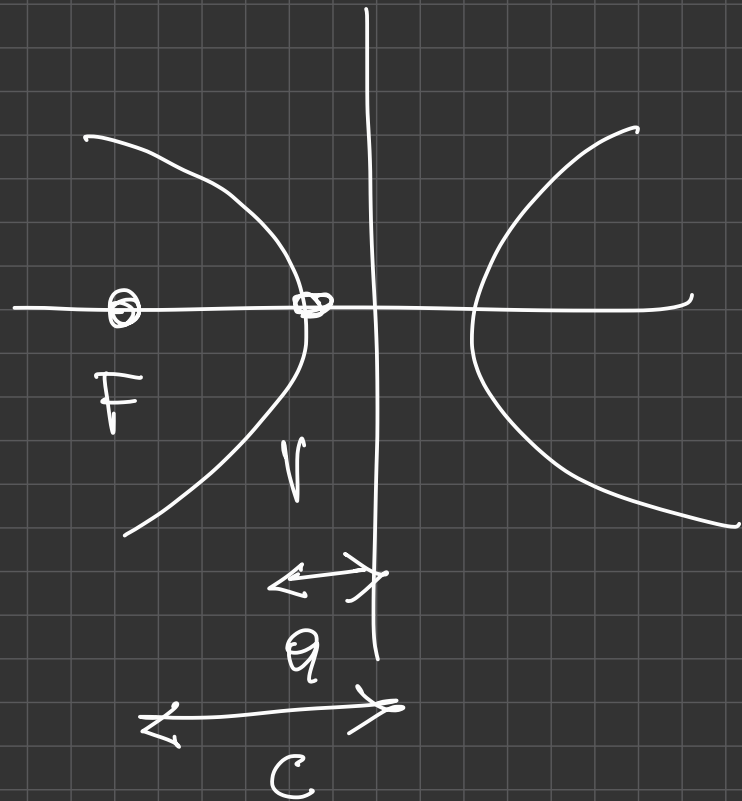
$$b = 3 \quad \text{su } x \vee \quad \text{F. su } x$$

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

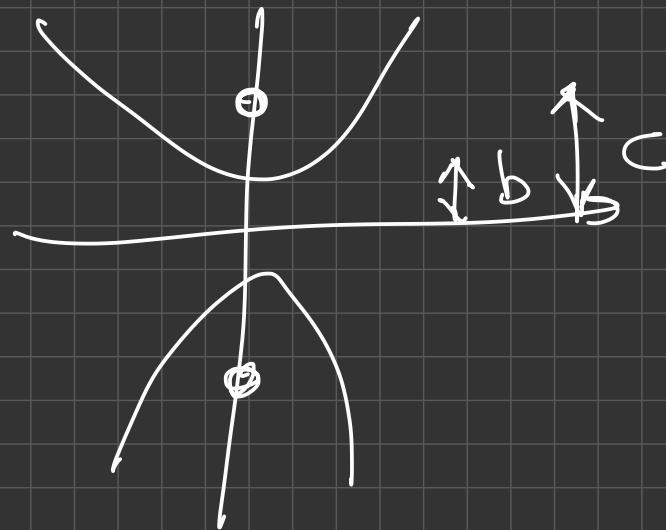
$$9 = c^2 - 25$$

$$c^2 = 25 + 9 = 34$$

$$F(-\sqrt{34}; 0); (+\sqrt{34}; 0)$$



$$\frac{x^2}{100} - \frac{y^2}{16} = -1$$



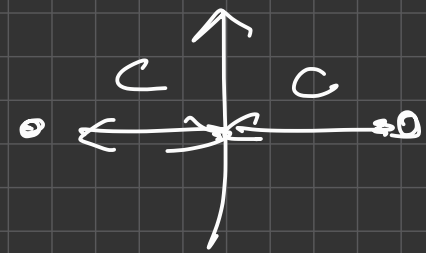
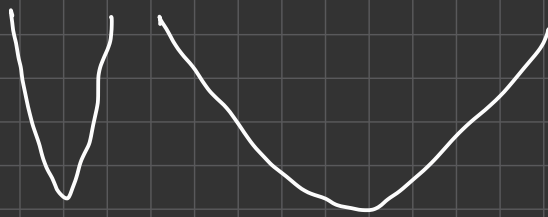
$$c^2 - b^2 = a^2$$

$$c^2 = 100 + 16 = \sqrt{116}$$

$$F(0; -\sqrt{116}) \quad (0; +\sqrt{116})$$

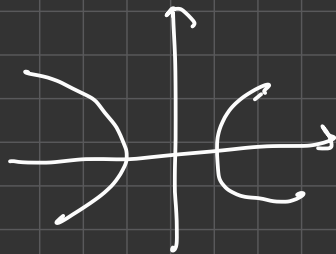
$$c^2 = a^2 + b^2$$

# ECCENTRICITA'



$$e = \frac{c}{\text{asse trasverso}} \\ (a; b)$$

$$\frac{x^2}{25} - y^2 = 1$$



$a =$  semi-asse trasv.

$$c = \sqrt{25 + 1}$$

$$e = \frac{c}{a} = \frac{\sqrt{26}}{5}$$