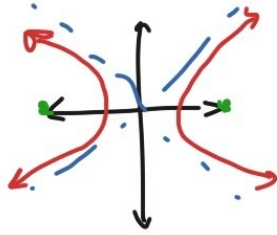


Hyperbolas

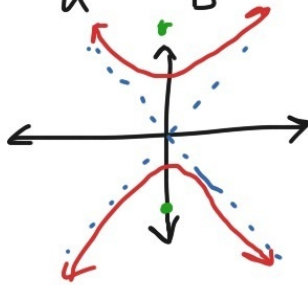
$$\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$$



$$(\pm c, 0)$$

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

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



$$(0, \pm c)$$

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

Ex 1 Graph the hyperbola, showing the asymptotes as dashed lines. Find the coordinates of the foci.

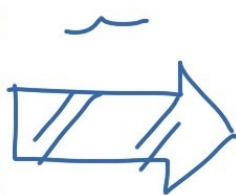
$$y^2 = 5x^2 + 25$$



get into

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

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



Draw a, b box and asymptotes, (2)
(if a^2 is under x^2 , a goes on x axis etc...)



If x is first
> <
If y first
v ^ (3)

Find foci w/
 $a^2 + b^2 = c^2$, (4)
put on appropriate axis

8:13



Ex 2 Same instructions as Ex 1.

$$\frac{x^2}{64} = \frac{y^2}{36} + 1$$