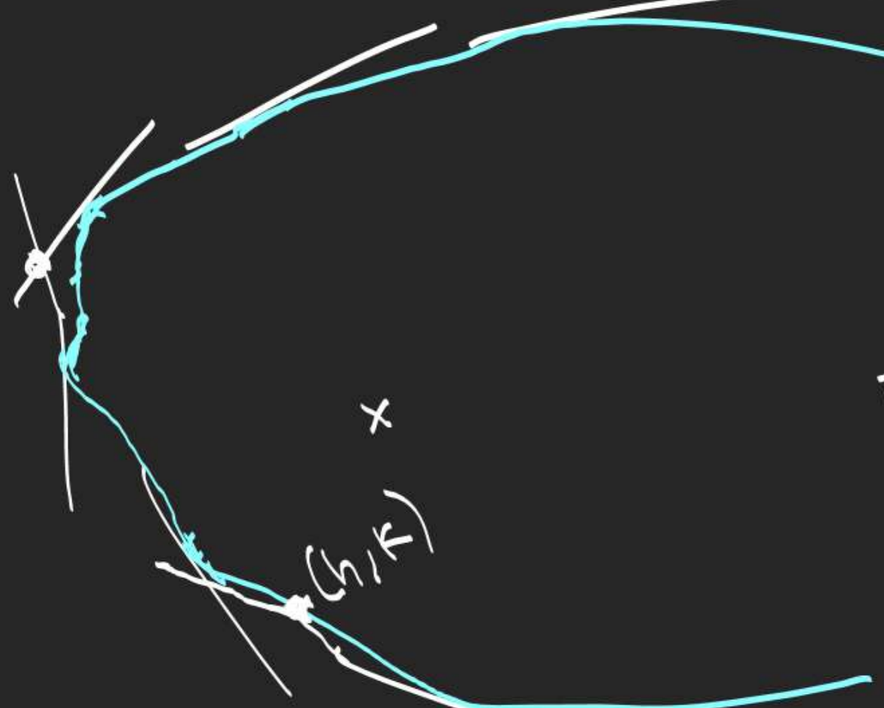
Nishant Jindal

Envelope

Family of lines $\leftarrow$ $m^2x - ym + 1 = 0$; m is parameter.



Envelope ?

Put (h,k)

$m^2h - mk + 1 = 0$

If (h,k) lies on envelope

$D = 0$

$k^2 - 4h = 0$

$y^2 = 4x$

Family of lines :- $P\lambda^2 + Q\lambda + R = 0$, λ is parameter

$P, Q, R \rightarrow$ given linear expression in x, y.

DE → Ex 6 ≥ 20

$(3x-y+7)\lambda^2 + (y-x)\lambda + (x+2y-5) = 0$

Envelope → $D = 0$

$\boxed{Q^2 = 4PR}$

~~$e^{\lambda}(x+7) - (\ln\lambda)(y+7) + \sin\lambda(x-3y+5) = 0$~~