1) tx ∈ D(f): 2f(x) + Ø => f is come f is noncomex  $\Rightarrow \exists x \in O(f): \partial f(x) = \emptyset$ f-nonconvex => 3x, yell() 326(0,1): f(dx+(1-2)y)>2f(x)+(1-2)f(y) => => I fixed x,y = \( \begin{aligned} \( \frac{1}{2} \) \( \frac{1}{ We prove:  $\partial f(dx+(1-d)y) = \phi$  for fixed x, y, dIf If(xx+(1-x)g) + & Shen 3g: tweO(f) f(u) = f(xx+(1-x)g)+g(u-(x-4)+h) We know f (dx + (1-d)y) > f(x) A f(dx + (1-d)y) > f(y) W. l. o.g.: X L d X + (1-d) y L y If  $f(x) = f(\alpha x + (1-\alpha)y) + g'(x - \alpha x - (1-\alpha)y)$ g [ (1-2) (x-y)) - love No-bel 0 of fly) = flxx + (1-2)y) +g [ (y-xx + (1-2)y) g (x(x-y)) - Ine Nobe LO g (1-2) (x-5) 40 g[(-d)(x-5) LO gT (x-5) 40 g T(x-y) >0 Contradiction => g doesn't exist =7 2f(xx+(1-d))=47 =) (f-is noncomex =) ] x = (1) ] = (+x = (1) : ) f(x) + 0 = ) fine (1) (+x = (1) : ) f(x) + 0 = ) fine (2) (+x = (1) : ) f(x) + 0 = ) fine (2) (+x = (1) : ) f(x) + 0 = ) f(x) + 0 = ) f(x) + 0 = (1) (+x = (1) : ) f(x) + 0 = ) f(x) + 0 = (1) (+x = (1) : ) f(x) + 0 = ) f(x) + 0 = (1) (+x = (1) : ) f(x) + 0 = ) f(x) + 0 = (1) (+x = (1) : ) f(x) + 0 = ) f(x) + 0 = (1) (+x = (1) : ) f(x) + 0 = ) f(x) + 0 = (1) (+x = (1) : ) f(x) + 0 = (1) (+x = (1) (+x = (1) : ) f(x) + 0 = (1) (+x = (1) (+x = (1) : ) f(x) + 0