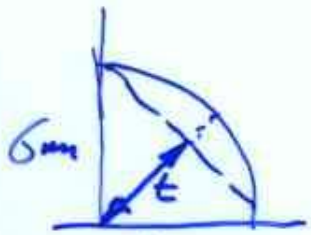
① Weld Throat Area?

Area = (t)(L) → weld length.




h = 6mm

t = (0.707)(6mm)

$A = (0.707)(6\times10^{-3})(50\times10^{-3})(2)$ ← 2 welds

$A = 424\ mm^2$ ← $(m^2\times10^{-6})$

Stressed in shear $S_{sy} = 0.58\,S_y$

$$F = \frac{(S_{sy})(A)}{F.S.} = \frac{(350)(0.58)(424\times10^{-6})(10^6)}{3}$$

$$F = 28.7\ kN$$

Alternative weld arrangement of welds
A1) & BC

Assumptions ① critical stress is in minimum throat section = tL
② weld carries entire load in shear
③ Plates don't fail (in fact we used this assumption in 1st part too). part also

$F = \frac{S_{sy}A}{F.S.} = 28.7\ kN$ again