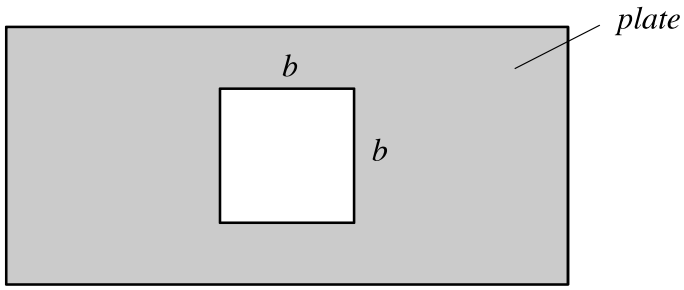
Homework H32.A

GIVEN: It is desired to punch of hole in a sheet of metal, with the metal having a thickness of *t*.. The desired hole is square with dimensions of *b* x *b*, as shown below. The punching force is given by *P*.

FIND: Determine the shear stress in the plate as a result of the punching force *P*.

For this problem, use the following parameters: $t = 0.2$ in, $b = 3$ in and $P = 60$ kips.



Homework H32.B

GIVEN: The truss shown below is loaded with a force P at joint C.. Member (1) of the truss is made up of two components that are joined with a pin having a diameter of d with a yield strength in shear of τ_Y.

FIND: For this problem,

a) Determine the loads carried by the three members of the truss.
b) Determine the minimum diameter d of the pin joining the two components of member AC such that the material of the pin does not yield.

For this problem, use the following parameters: a = 16/15 ft, b = 3/5 ft, h = 4/5 ft, P = 20 kips and τ_Y = 25 ksi.

