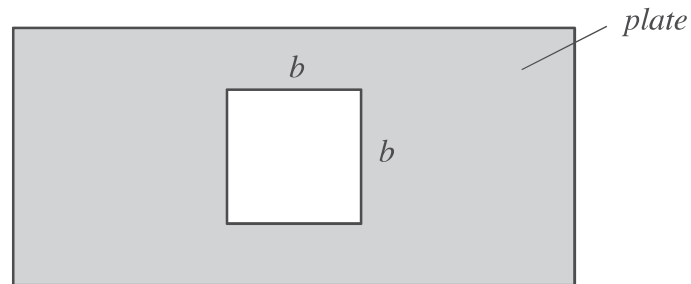


Homework H32.A

Given: It is desired to punch a hole in a sheet of metal, with the metal having a thickness of t . The desired hole is square with dimensions of $b \times b$, 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: $t = 0.1$ in, $b = 2$ in and $P = 30$ ksi.



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 $\tau_Y = 18$ ksi.

