1) GIVEN: Wooden member under tension with scarf joint. P = 2400 lb
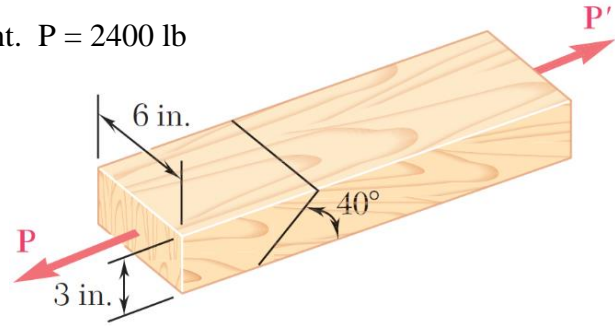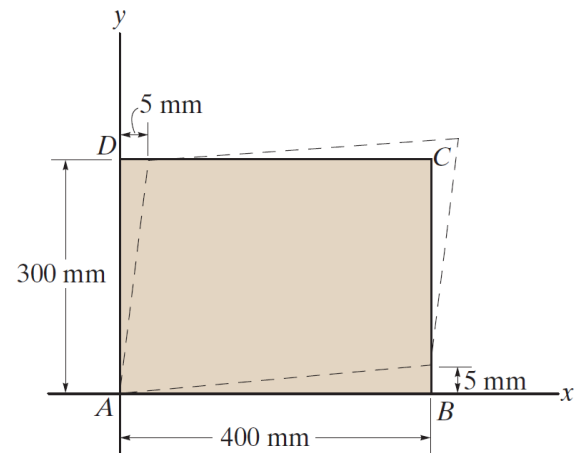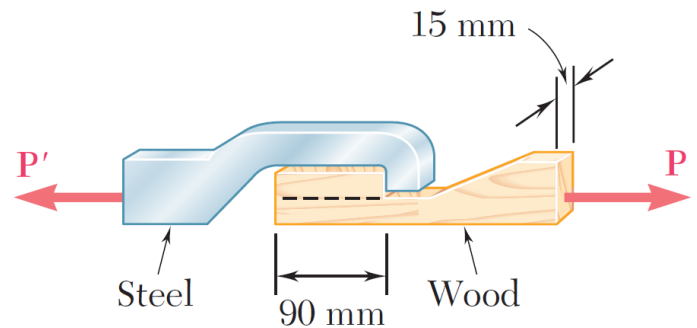REQ'D: Shear and normal stresses in joint.

6 in.

P′

40°

P

3 in.

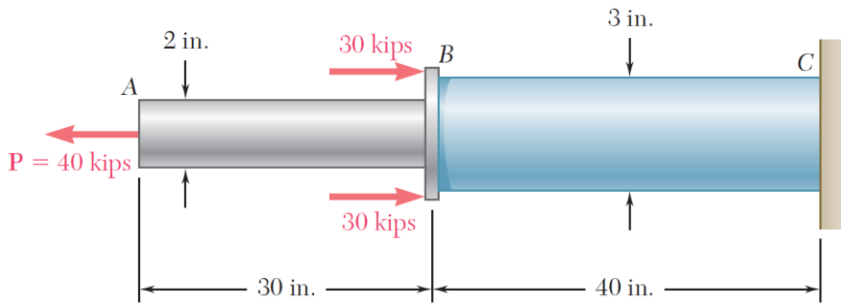**2)** GIVEN: The rectangular plate is deformed into
the shape of a parallelogram as shown.
REQ'D: Shear strain at corners A and B.

y

5 mm

D

C

300 mm

5 mm

A

B

x

400 mm

15 mm

3) GIVEN: Wooden hook failed in shear along the
dashed line when P = 8 kN.
REQ'D: Average shearing stress at failure.

P′

P

Steel

90 mm

Wood

4) GIVEN: Cylindrical rods AB and BC are welded together at B and loaded as shown.

REQ'D: A) Average normal stress in section AB.

B) Average normal stress in section BC.

C) Also, find the axial strain in each segment if $\Delta L_{AB} = 0.0127$ in and $\Delta L_{BC} = 0.00377$ in.

5) GIVEN: $\varnothing$ 0.5 in bolt connecting two 0.5 in thick plates.
REQ'D: Bearing and shear stresses if F = 1000 lbs.