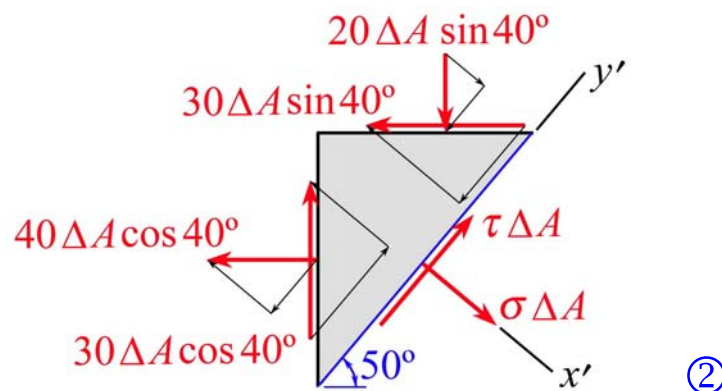
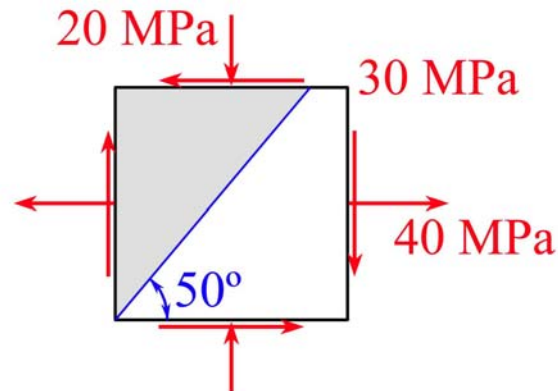


MEEG 3013 Quiz #7

For the given state of stress, determine the normal stress σ and the shearing stress τ exerted on the oblique face of the shaded triangular element shown. Use a method of analysis based on the equilibrium of that element.



$$+\searrow \Sigma F_{x'} = 0: \quad \sigma = 44.754$$

$$\sigma = 44.8 \text{ MPa} \quad \searrow \quad \textcircled{4}$$

$$+\nearrow \Sigma F_{y'} = 0: \quad \tau = 24.335$$

$$\tau = 24.3 \text{ MPa} \quad \nearrow \quad \textcircled{4}$$