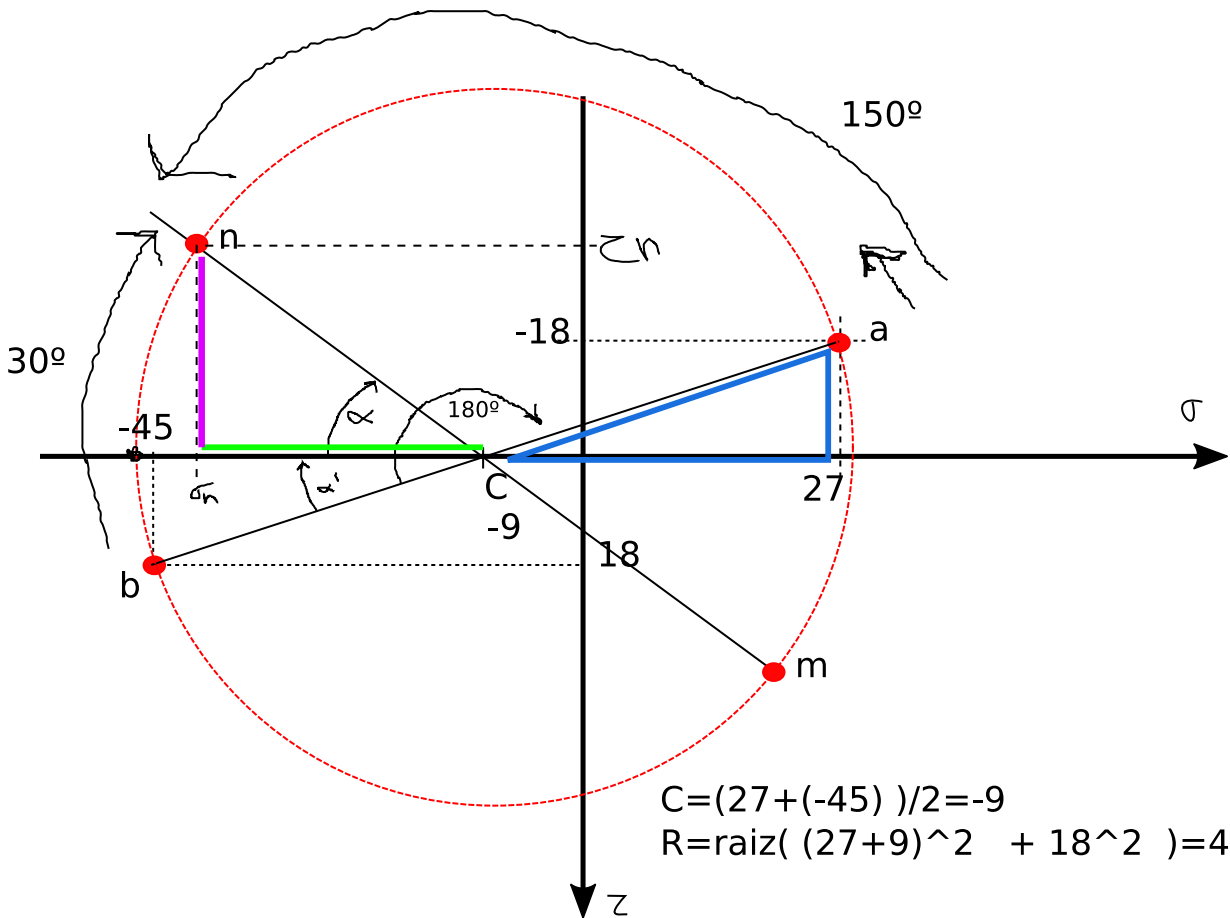
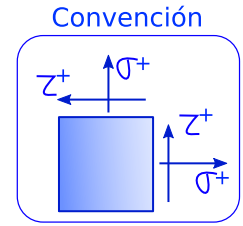
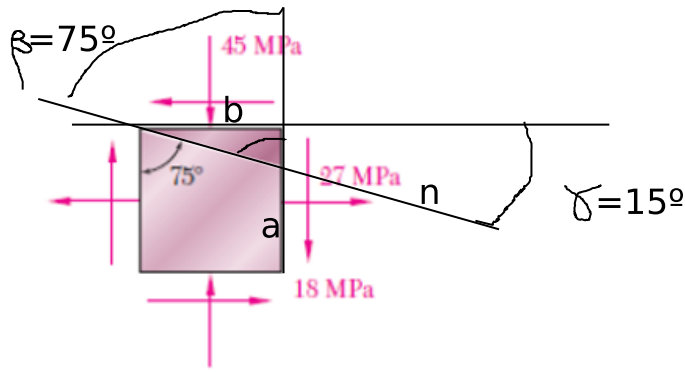


2.2 **

Para el estado de esfuerzo dado, determine los esfuerzos normales y cortantes ejercidos sobre la cara oblicua del elemento triangular sombreado que se muestra en la figura.



$$C = (27 + (-45)) / 2 = -9$$

$$R = \text{raiz}((27 + 9)^2 + 18^2) = 40,25 \text{ MPa}$$

$$\alpha' = \text{acos}(36/40,25) = 26,6^\circ$$

$$\alpha = 30 - 26.6 = 3.4^\circ$$

$$\sigma_n = R \cdot \cos(3.4) + C = -40.18 - 9 = -49,18$$

$$\tau_n = R \cdot \text{sen}(3.4) = -2.4$$