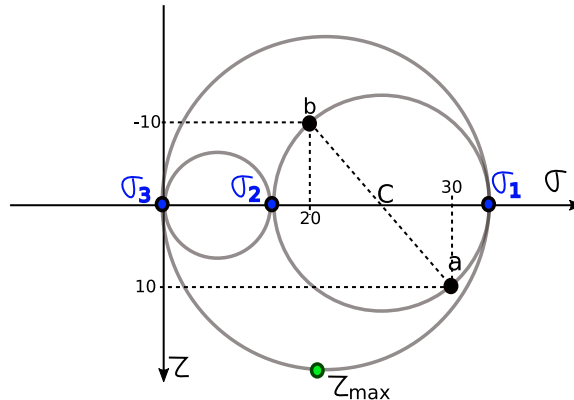
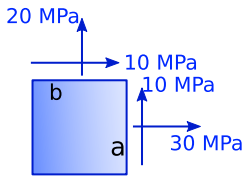
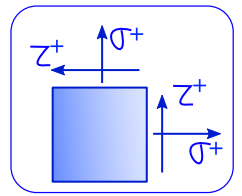


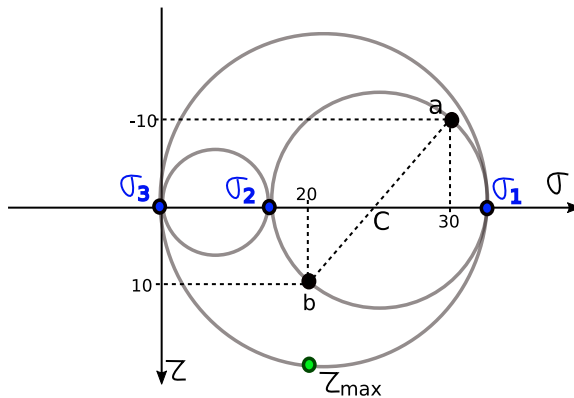
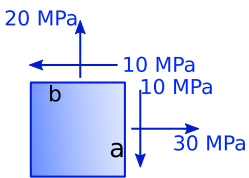
# EJEMPLOS

- 1) HACER LOS CIRCULOS (DAR Centro y Radio)
- 2) ENCONTRAR LOS TRI-CIRCULOS
- 3) DAR LOS ESFUERZOS PRINCIPALES
- 4) DAR EL CORTANTE MAXIMO
- 5) ENCONTRAR LOS ESFUERZOS EN LA CARA n

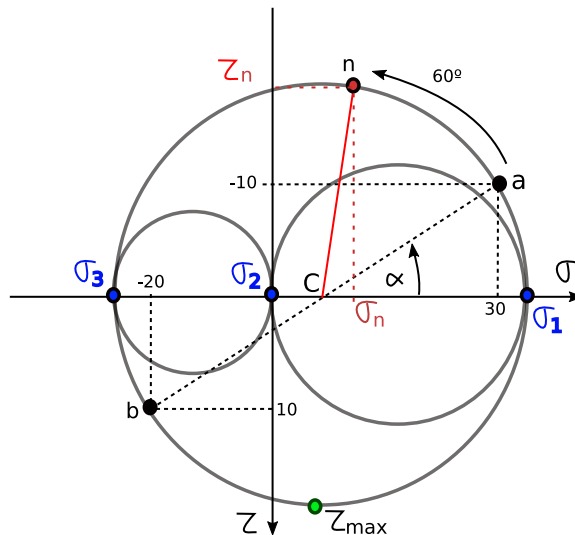
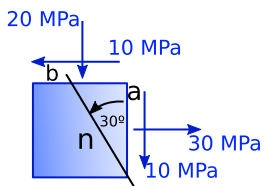
Convención



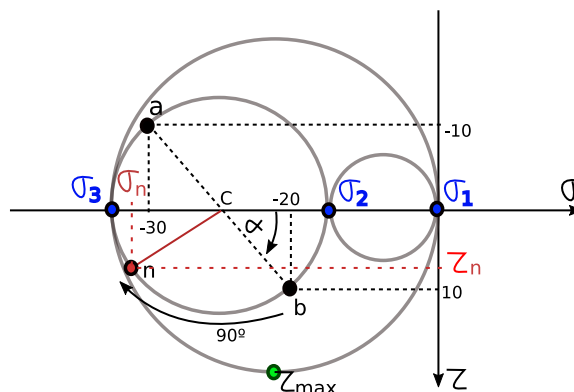
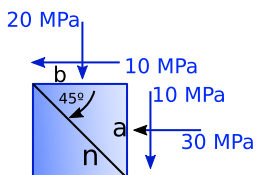
$C = 25 \text{ MPa}$   
 $R = 11,2 \text{ MPa}$   
 $\sigma_1 = C + R = 36.2 \text{ MPa}$   
 $\sigma_2 = C - R = 13.8 \text{ MPa}$   
 $\sigma_3 = 0 \text{ MPa}$   
 $\tau_{\max} = \sigma_1/2 = 18.1 \text{ MPa}$



$C = 25 \text{ MPa}$   
 $R = 11,2 \text{ MPa}$   
 $\sigma_1 = C + R = 36.2 \text{ MPa}$   
 $\sigma_2 = C - R = 13.8 \text{ MPa}$   
 $\sigma_3 = 0 \text{ MPa}$   
 $\tau_{\max} = \sigma_1/2 = 18.1 \text{ MPa}$



$C = 5 \text{ MPa}$   
 $R = 26.9 \text{ MPa}$   
 $\sigma_1 = C + R = 31.9 \text{ MPa}$   
 $\sigma_2 = 0 \text{ MPa}$   
 $\sigma_3 = C - R = -21.9 \text{ MPa}$   
 $\tau_{\max} = (\sigma_1 - \sigma_3)/2 = 26.9 \text{ MPa}$   
 $\alpha = \cos^{-1}[(30 - C)/R] = 21.7^\circ$   
 $\sigma_n = C + R \cos(60 + \alpha) = 6.45 \text{ MPa}$   
 $\tau_n = R \sin(60 + \alpha) = -26.6 \text{ MPa}$



$C = -25 \text{ MPa}$   
 $R = 11.2 \text{ MPa}$   
 $\sigma_1 = 0 \text{ MPa}$   
 $\sigma_2 = C + R = -13.8 \text{ MPa}$   
 $\sigma_3 = C - R = -36.2 \text{ MPa}$   
 $\tau_{\max} = \sigma_3/2 = 18.1 \text{ MPa}$   
 $\alpha = \cos^{-1}[(-20 - C)/R] = 63.5^\circ$   
 $\sigma_n = C + R \cos(90 + \alpha) = -35 \text{ MPa}$   
 $\tau_n = R \sin(90 + \alpha) = 5 \text{ MPa}$