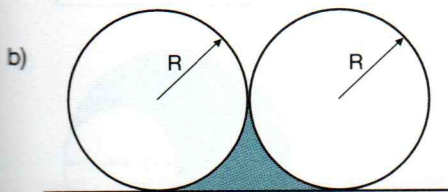
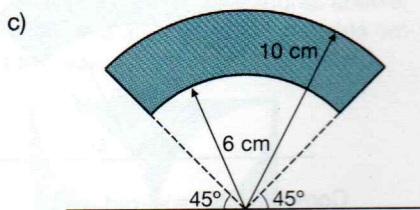
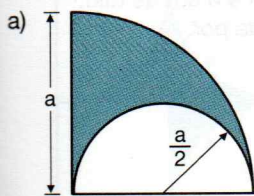
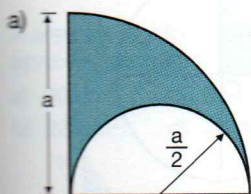


5. Calcule as áreas das figuras coloridas:

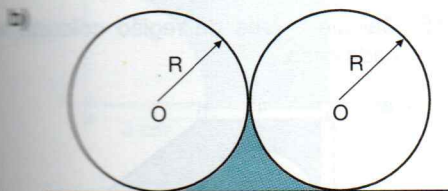


Solução:

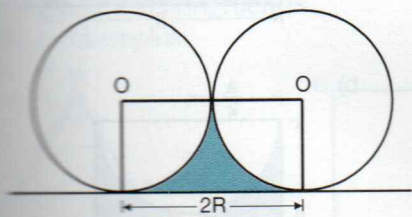


A área procurada é dada por:

$$A = A_{\square} - A_{\text{c}} = \frac{1}{4} \cdot \pi a^2 - \frac{1}{2} \cdot \pi \left(\frac{a}{2}\right)^2 = \frac{\pi a^2}{4} - \frac{\pi a^2}{8} = \frac{\pi a^2}{8}$$



Ligando os centros das circunferências e baixando as perpendiculares dos centros à reta tangente, temos:



A área procurada é dada por:

$$A = A_{\square} - 2A_{\text{c}} = 2R \cdot R - \frac{\pi R^2}{2} = 2R^2 - \frac{\pi R^2}{2} = \frac{R^2}{2}(4 - \pi)$$