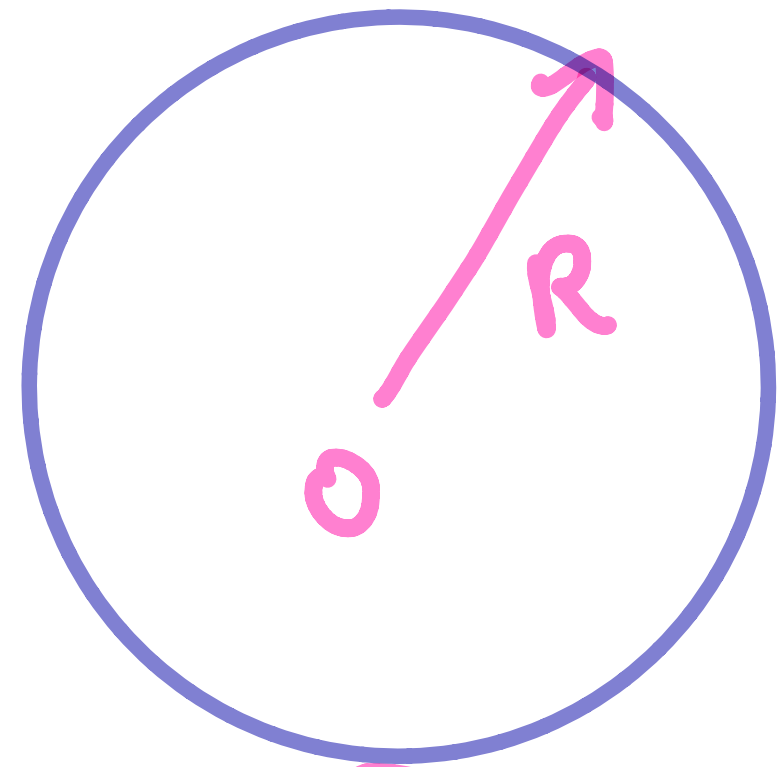
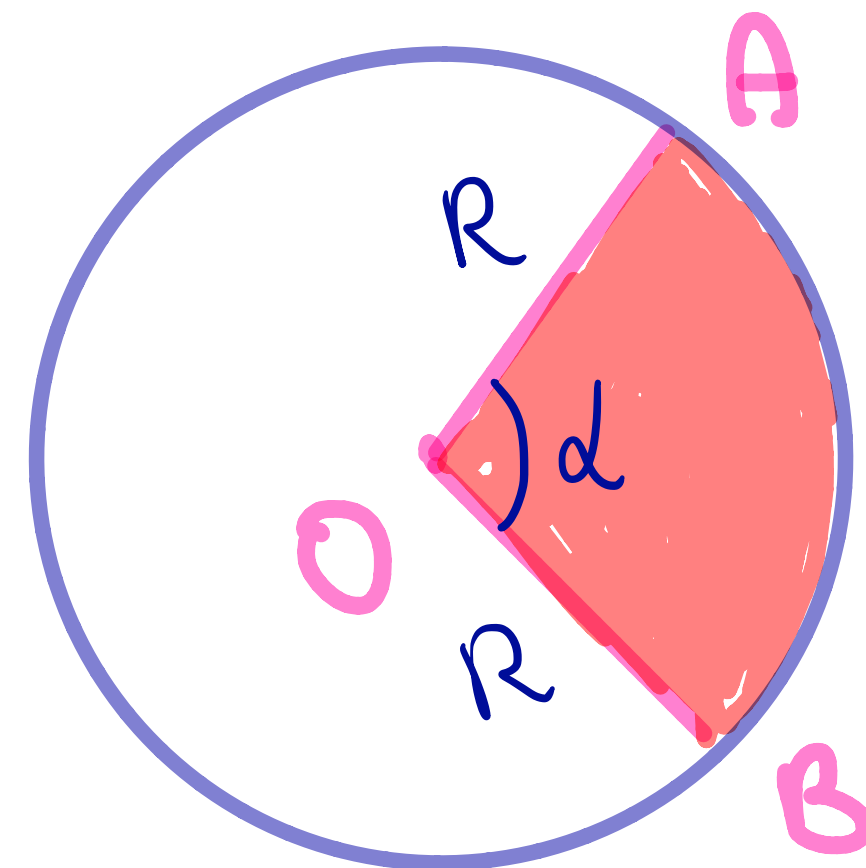


→ Área do círculo
(e suas partes)

OBS: Setores circulares
mangudos!



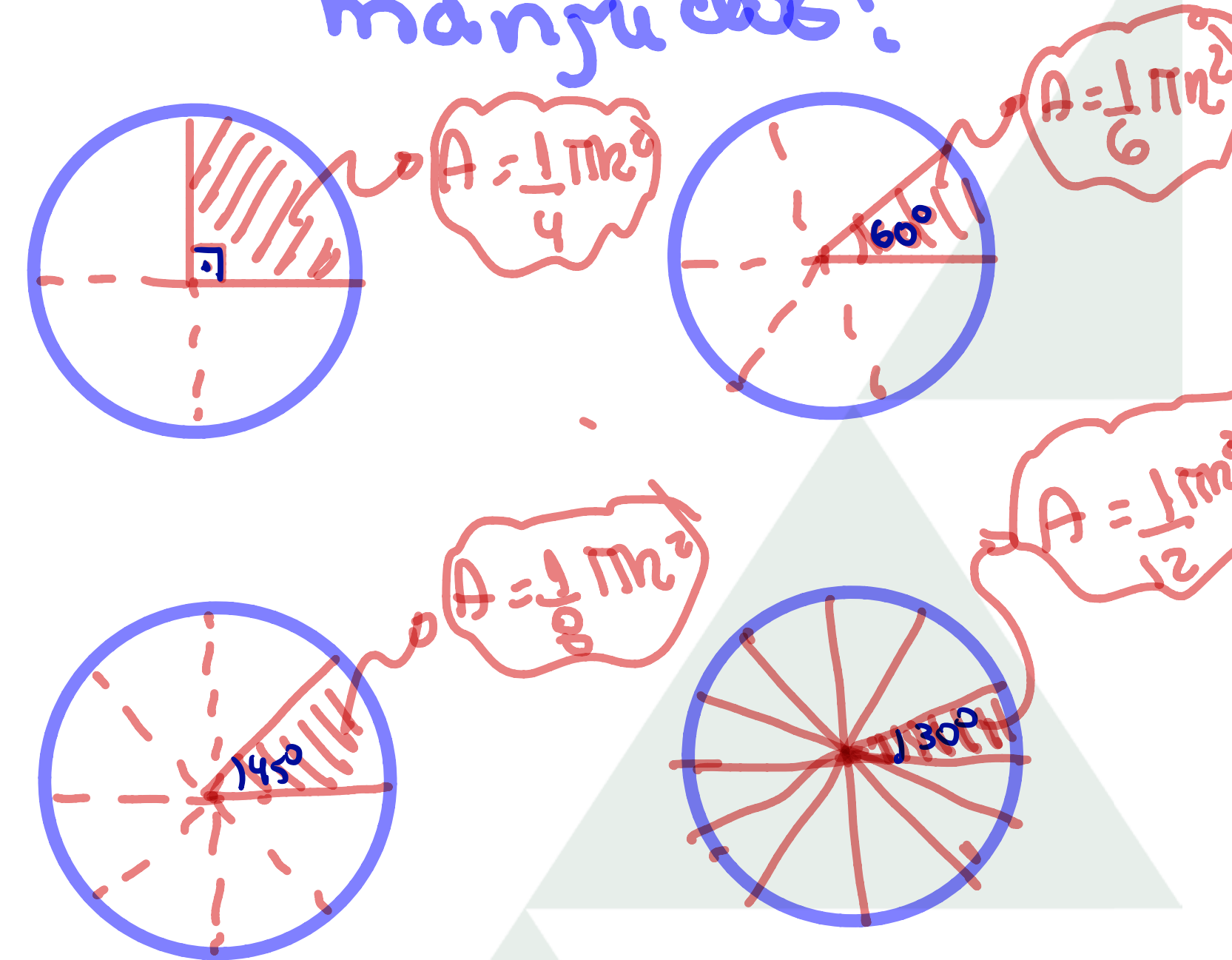
- Setor circular
(Folha de pizza)



$A = \pi R^2$ (área)

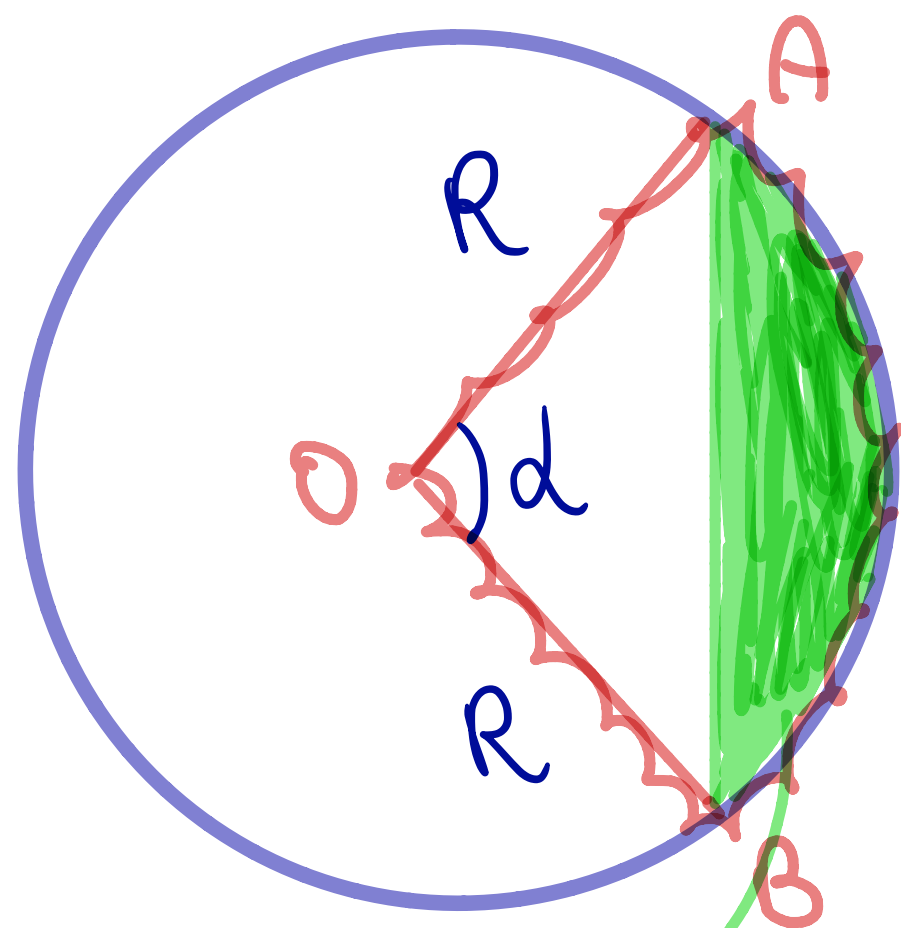
$C = 2\pi R$ (comprimento
ou perímetro)

Área do setor circular = $\frac{\alpha \cdot \pi R^2}{360^\circ}$



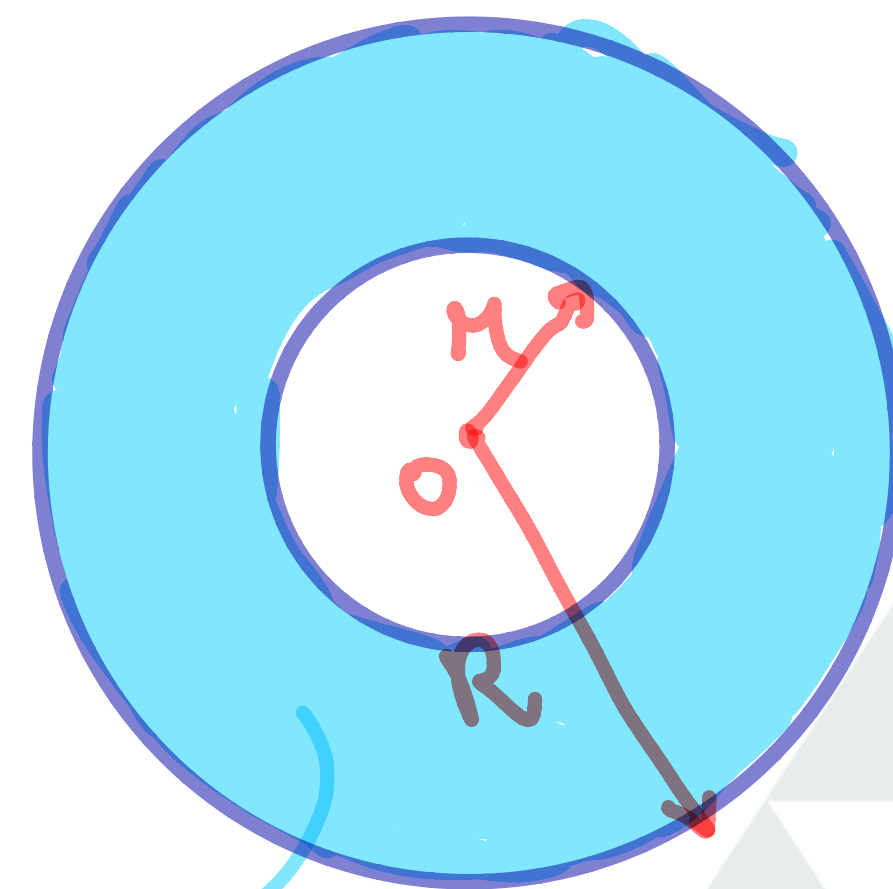
Regrinha de 3!
 $360^\circ \text{ — } \pi R^2$
 $d \text{ — } A = ?$
 $360^\circ \cdot A = d \cdot \pi R^2$
 $A = \frac{d \cdot \pi R^2}{360^\circ}$

- Segmento circular



$$\text{Área do Segmento Circular} = \text{Área do Setor OAB} - \text{Área do Triângulo OAB}$$

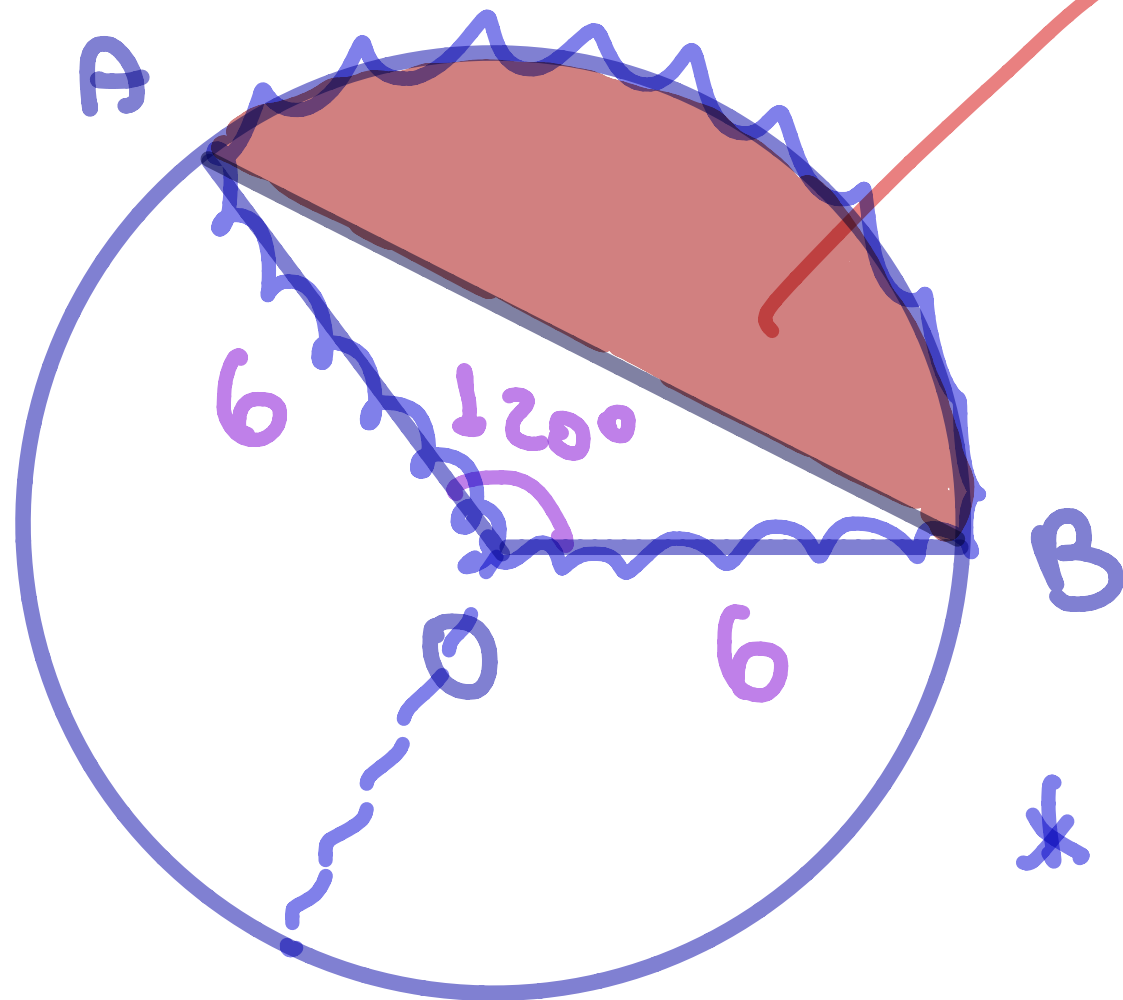
- Coroa circular



$$\text{Área da Coroa Circular} = \pi R^2 - \pi r^2$$

Exemplo 1) Determine as áreas sombreadas (ou hachuradas) das figuras abaixo:

a) $R = 6\text{cm}$; $\widehat{AOB} = 120^\circ$



$A_{\text{somb}} = ?$

$A_{\text{somb}} = A_{\text{setor } OAB} - A_{\Delta OAB}$

$A_{\text{somb}} = 12\pi - 9\sqrt{3}$

$A_{\text{somb}} = 3(4\pi - 3\sqrt{3})\text{cm}^2$

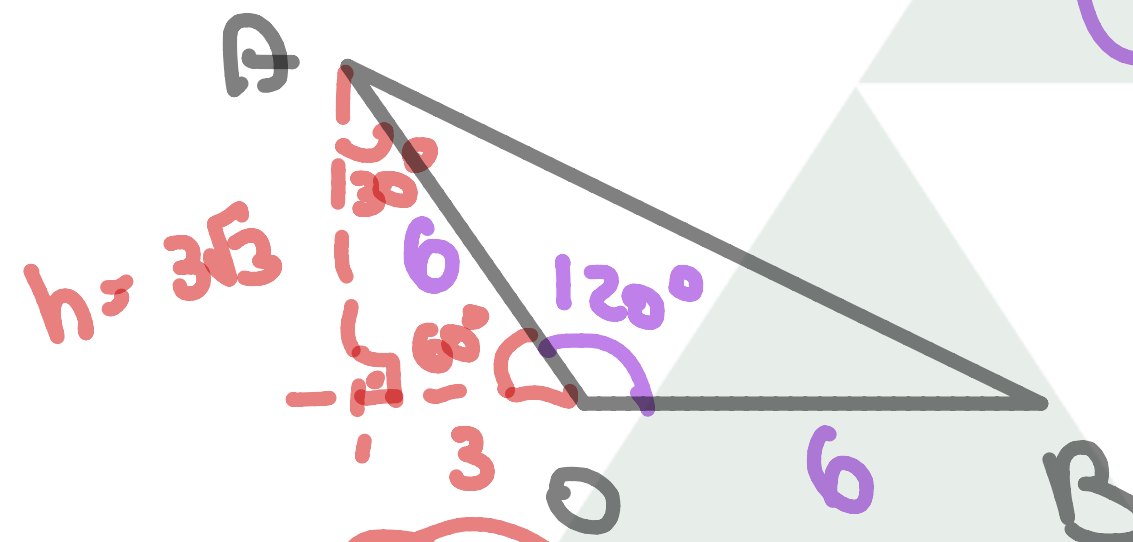
* $A_{\text{setor}} = ?$

$A = \frac{1}{3}\pi r^2$

$A = \frac{1}{3}\pi \cdot 6^2$

$A = 12\pi\text{cm}^2$

* $A_{\Delta} = ?$



$A_{\Delta} = \frac{b \cdot h}{2} = \frac{6 \cdot 3\sqrt{3}}{2} = 9\sqrt{3}\text{cm}^2$

$A_{\Delta} = \frac{1}{2}bc \sin \alpha$

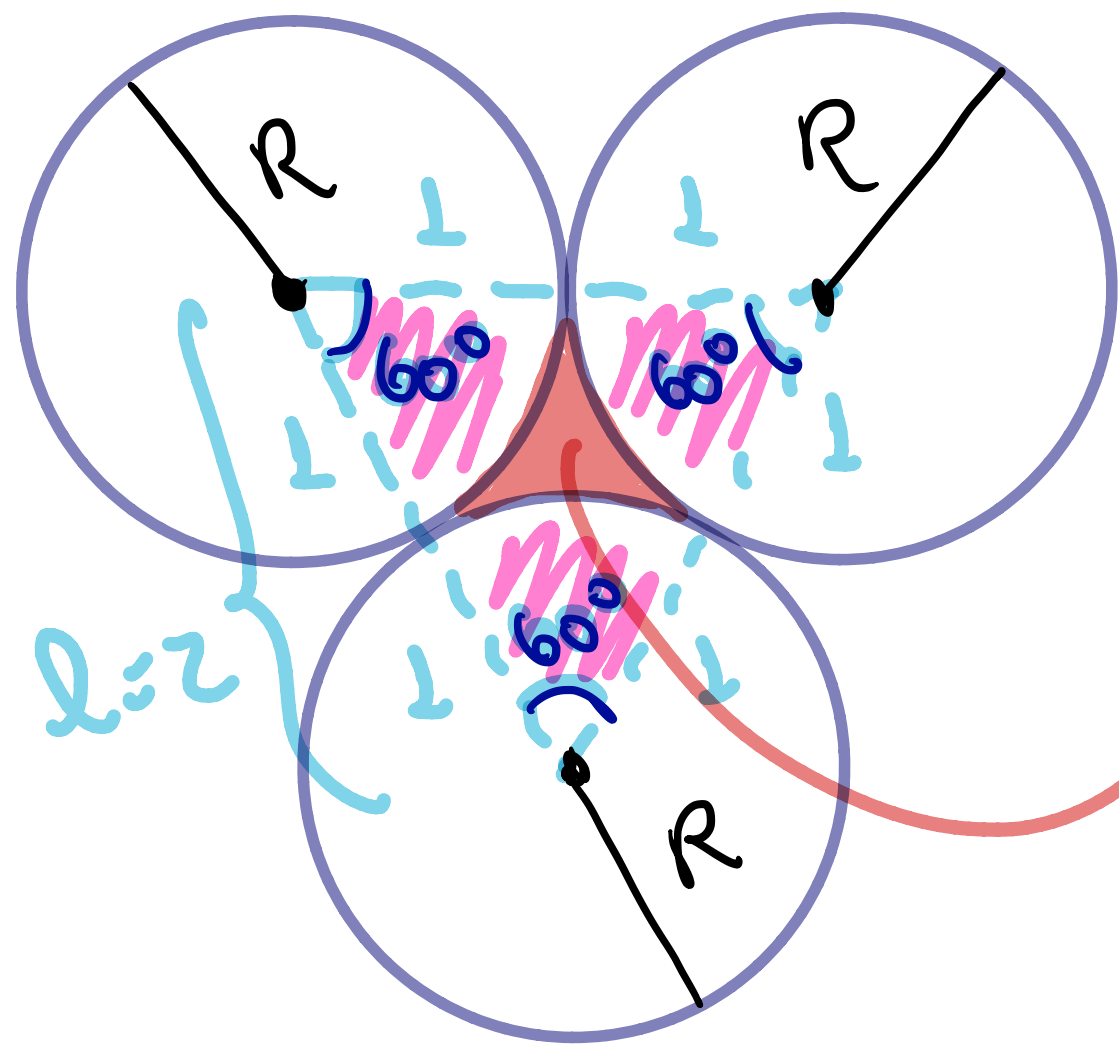
$A_{\Delta} = \frac{1}{2} \cdot 6 \cdot 6 \cdot \sin 120^\circ$

$A_{\Delta} = 18 \cdot \frac{\sqrt{3}}{2}$

$A_{\Delta} = 9\sqrt{3}\text{cm}^2$

b)

$R = 1\text{cm}$



$A_{\text{omb}} = ?$

$A = A_{\text{equilátero}} - 3 A_{\text{setor de } 60^\circ}$

$A = \left(\sqrt{3} - \frac{\pi}{2} \right) \text{cm}^2 //$

$h_{\Delta} = \frac{l\sqrt{3}}{2}$

$A_{\Delta} = ?$

$A_{\Delta} = \frac{l^2\sqrt{3}}{4}$

$A_{\Delta} = \frac{2^2\sqrt{3}}{4}$

$A_{\Delta} = \sqrt{3} \text{cm}^2 //$

$A_{\text{setores}} = ?$

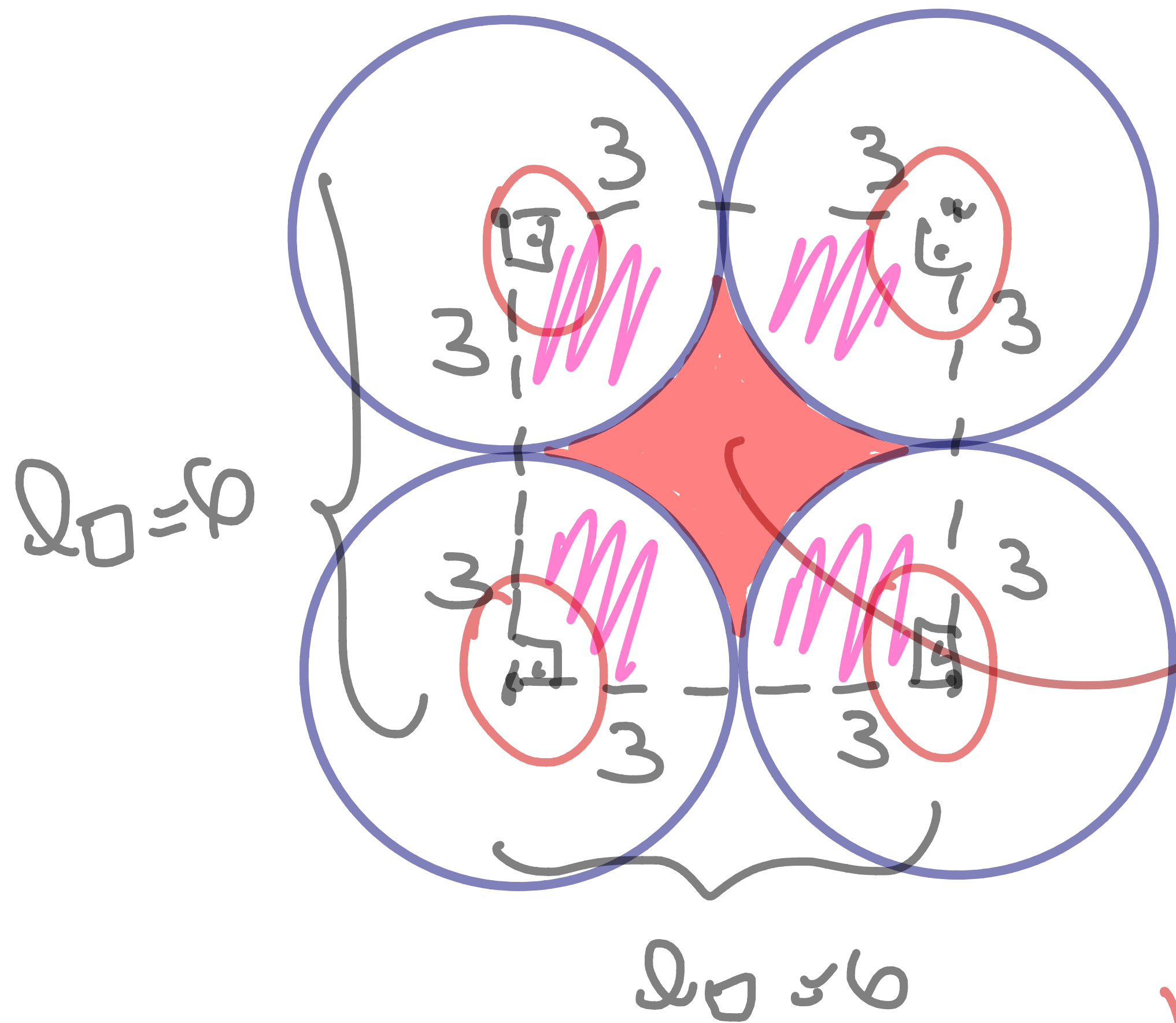
$A = 3 \cdot \frac{1}{6} \pi R^2$

$A = \frac{\pi R^2}{2}$

$A = \frac{\pi \cdot 1^2}{2} = \frac{\pi}{2} \text{cm}^2 //$

c)

$R = 3\text{cm}$



$A_{\text{omb}} = A_{\square} - A_{4\text{setores}}$

$= 2^2 - \pi R^2$

$= 6^2 - \pi \cdot 3^2$

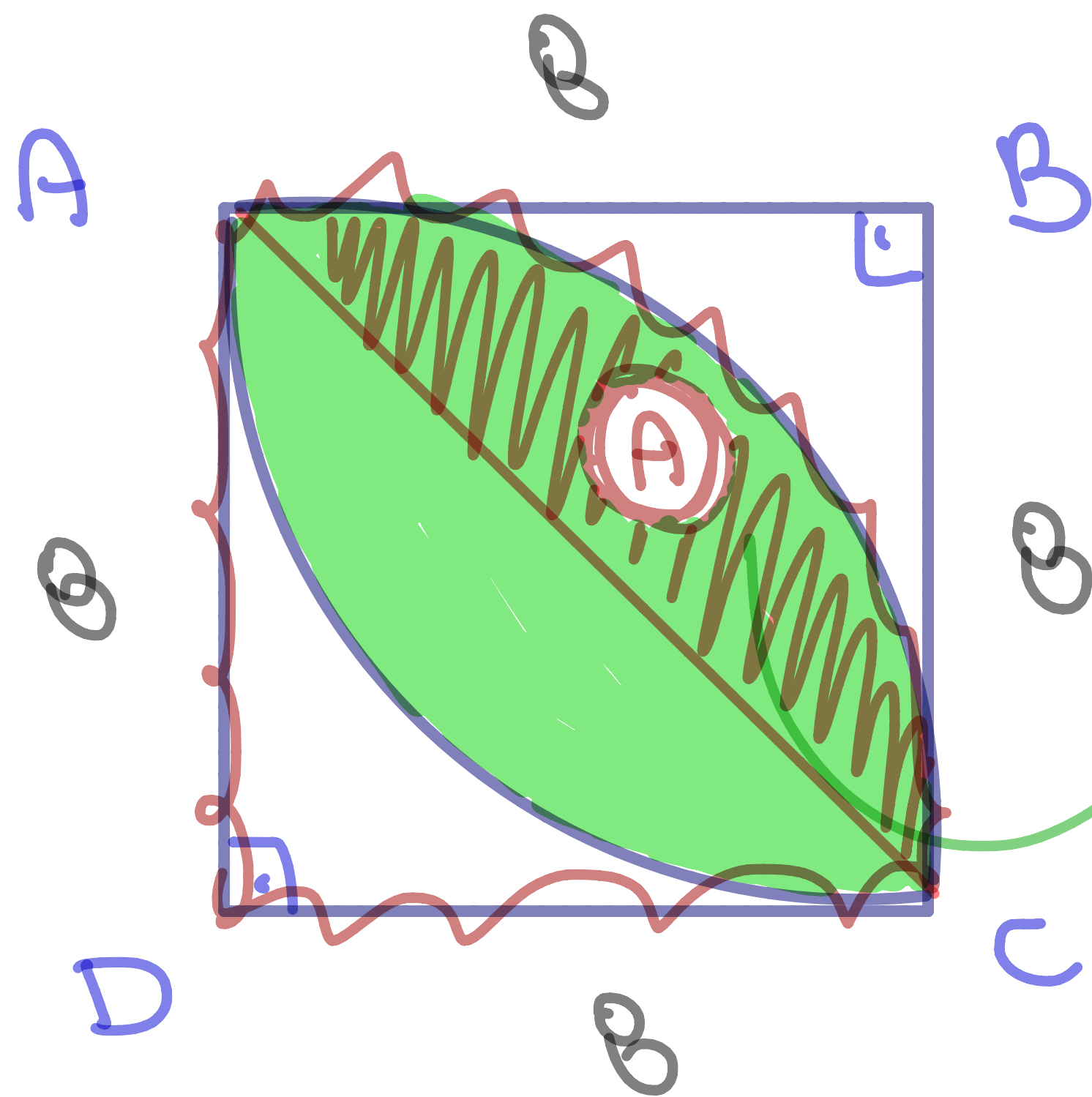
$= 36 - 9\pi$

$= 9(4 - \pi)\text{cm}^2$

$4 \cdot \frac{1}{4} \pi R^2$

d)

$$l_{\square} = 8 \text{ cm}$$



$$A_{\text{somb}} = ?$$

$$A_{\text{somb}} = 2 \cdot A$$

$$A_{\text{somb}} = 2 \cdot (16\pi - 32)$$

$$A_{\text{s}} = (32\pi - 64) \text{ cm}^2$$

$$A_{\text{s}} = 32(\pi - 2) \text{ cm}^2$$

$$* A = A_{\text{setor}} - A_{\text{DAC}}$$

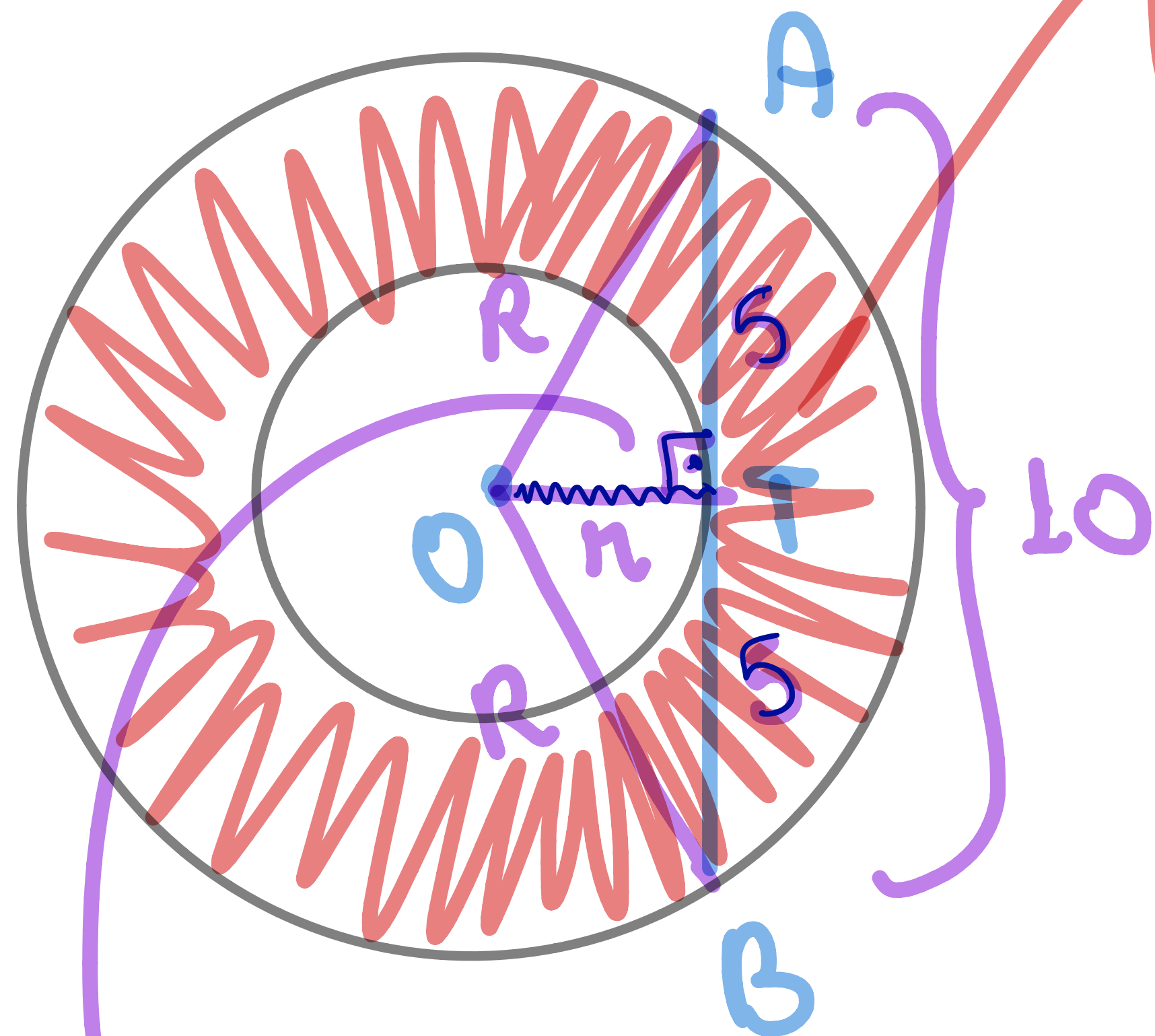
$$A = \frac{1}{4} \pi r^2 - \frac{\text{cat} \cdot \text{cat}}{2}$$

$$A = \frac{1}{4} \pi \cdot 8^2 - \frac{8 \cdot 8}{2}$$

$$A = (16\pi - 32) \text{ cm}^2$$

e)

$AB = 10\text{cm}$



Área = ?

$$\text{Área} = \pi R^2 - \pi r^2$$

$$= \pi (R^2 - r^2)$$

$$= \pi \cdot 25$$

$$= 25\pi \text{cm}^2$$

(Pitágoras)

$$R^2 = r^2 + 5^2$$

$$R^2 = r^2 + 25 \Rightarrow R^2 - r^2 = 25$$