

BOÛT DE DISQUE

The diagram illustrates the relationship between the area a of a shaded sector and the radius R of a larger sector. The shaded sector has center O , radius r , and angle α . The larger sector has center Ω , radius R , and angle α . The sectors are tangent at point A on the x-axis. The text "BOÛT DE DISQUE" is written at the top. The text "Aire a ?" is written below the shaded sector. The text " a, r et R connus." is written at the bottom right.

- $x_B = -R + a$

- $x_c^2 + y_c^2 = r^2$ dt $(x_c - a)^2 + y_c^2 = R^2$

Done,

$$x^2 - 2ax_c + a^2 = R^2$$

$$x_c = \frac{1}{2a} (n^2 + a^2 - R^2)$$

$$\bullet \int_a^b \sqrt{R^2 - (x-a)^2} \, dx$$

$$= \int_{x_1}^{x_2} \sqrt{R^2 - x^2} \, dx$$

$$= \int_{t''}^{\beta''} \sqrt{1-t^2} dt \times R^2$$

... Du très classique!