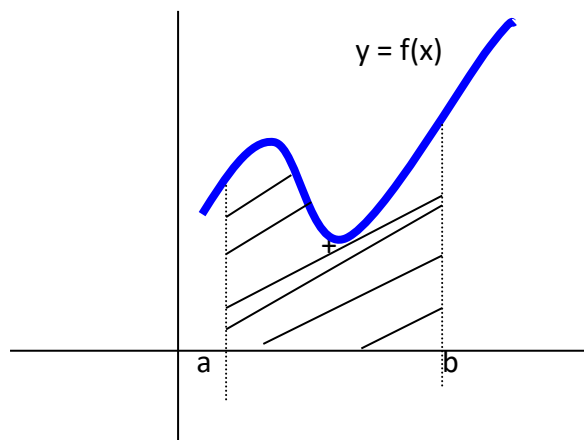


AZALERA INTEGRALEN BIDEZ

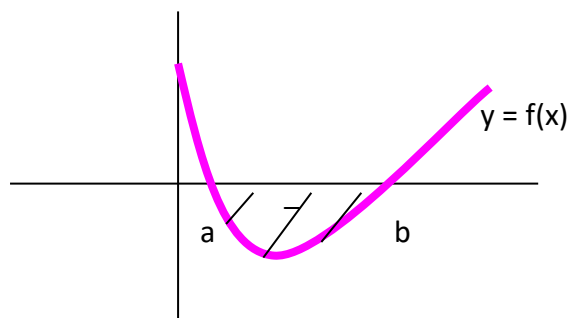
A) Kurba bat eta OX ardatzaren artean mugaturiko azalera



$f(x) > 0$ bada

KURBA GAINETIK

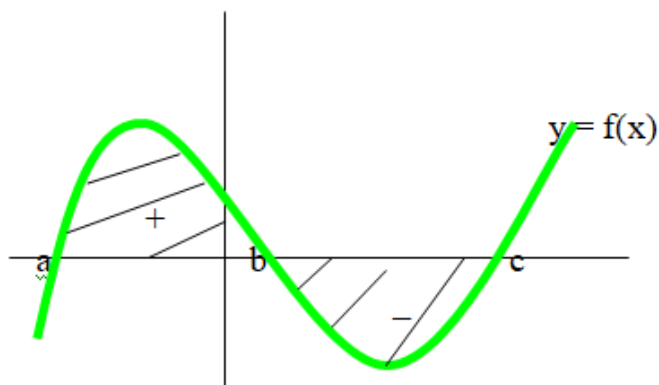
$$\text{Azalera} = \int_a^b f(x) dx$$



$f(x) < 0$ bada

KURBA AZPITIK

$$\text{Azalera} = \left| \int_a^b f(x) dx \right| = \int_b^a f(x) dx$$



$f(x) < 0$ eta **$f(x) > 0$** bada

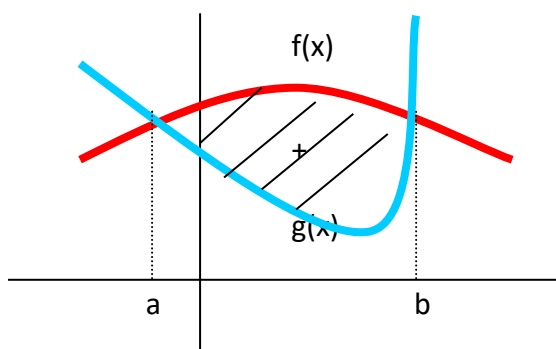
$$\text{Azalera} = \int_a^b f(x) dx + \left| \int_b^c f(x) dx \right| \text{ edo orokorrean}$$

$$\text{Azalera} = \left| \int_a^b f(x) dx \right| + \left| \int_b^c f(x) dx \right|$$

B) Bi kurbaren artean mugatutako azalera

B1) Azalera funtzioen ebaketa puntuen artean

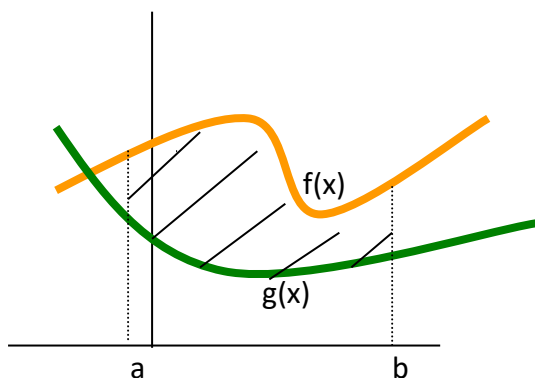
$f(x) > g(x)$ bada \rightarrow **Azalera = Goiko funtzioa – Beheko funtzioa**



$$\text{Azalera} = \int_a^b (f(x) - g(x)) dx$$

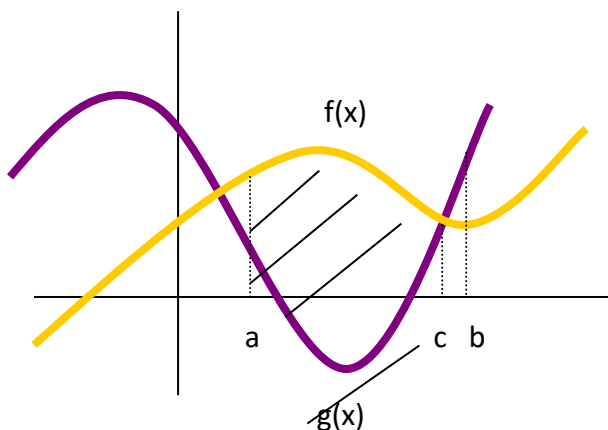
$$\text{Azalera} = \left| \int_a^b (f(x) - g(x)) dx \right|$$

B2) Azalera [a,b] tartean bada, $f(x)$ eta $g(x)$ funtzioen ebaketa puntuak aztertu.



Tartean ez badago ebaketarik

$$\text{Azalera} = \left| \int_a^b (f(x) - g(x)) dx \right| = \int_a^b (f(x) - g(x)) dx$$



Tartean ebaketa puntuak badaude

$$\text{Azalera} = \left| \int_a^c (f(x) - g(x)) dx \right| + \left| \int_c^b (f(x) - g(x)) dx \right|$$