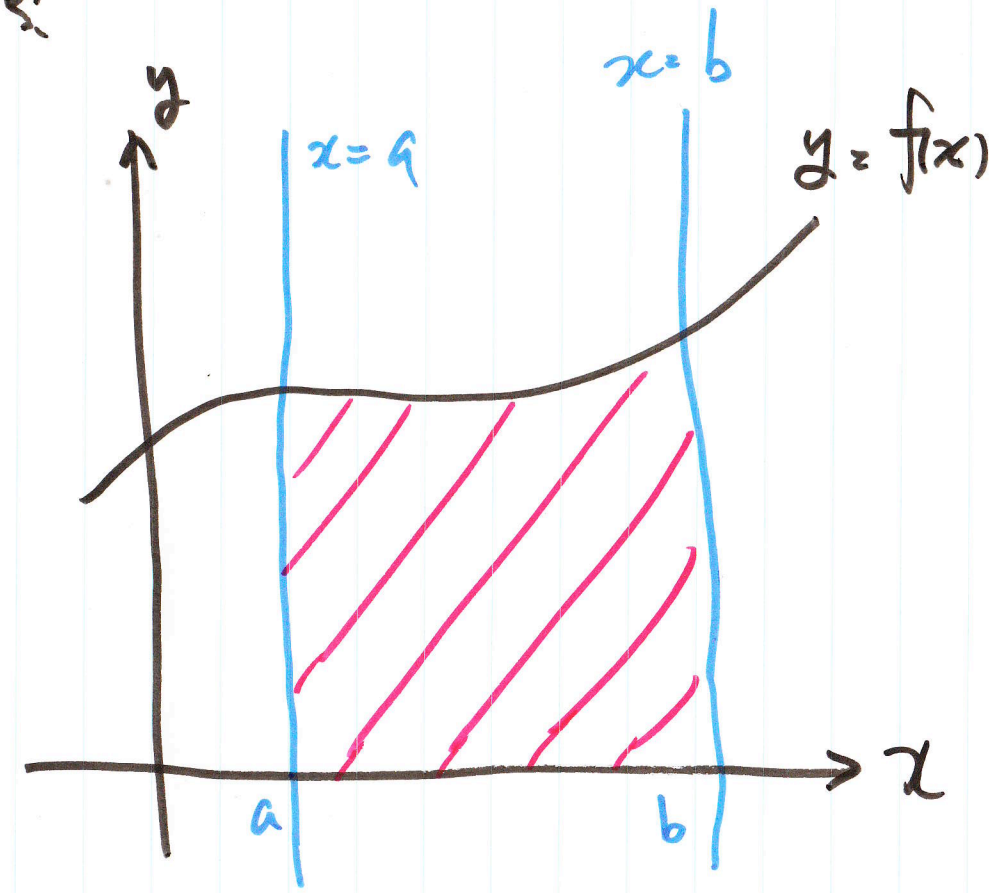
求積法

$y=f(x)$ と直線 $x=a$, $x=b$, x 軸で
囲まれる部分の面積

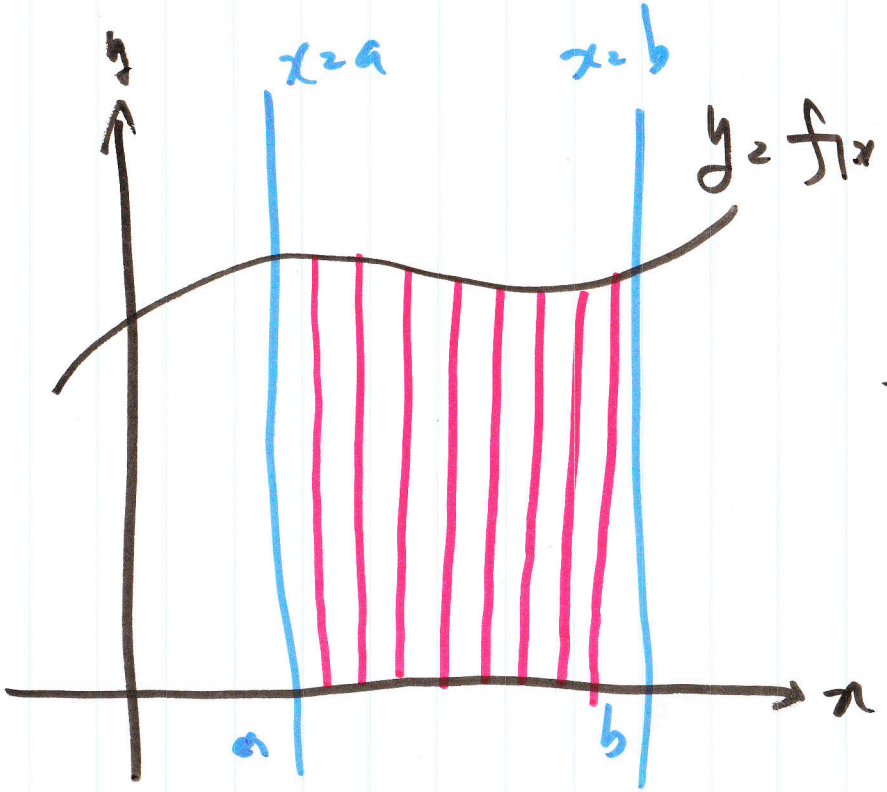
$$\int_a^b f(x)\,dx$$

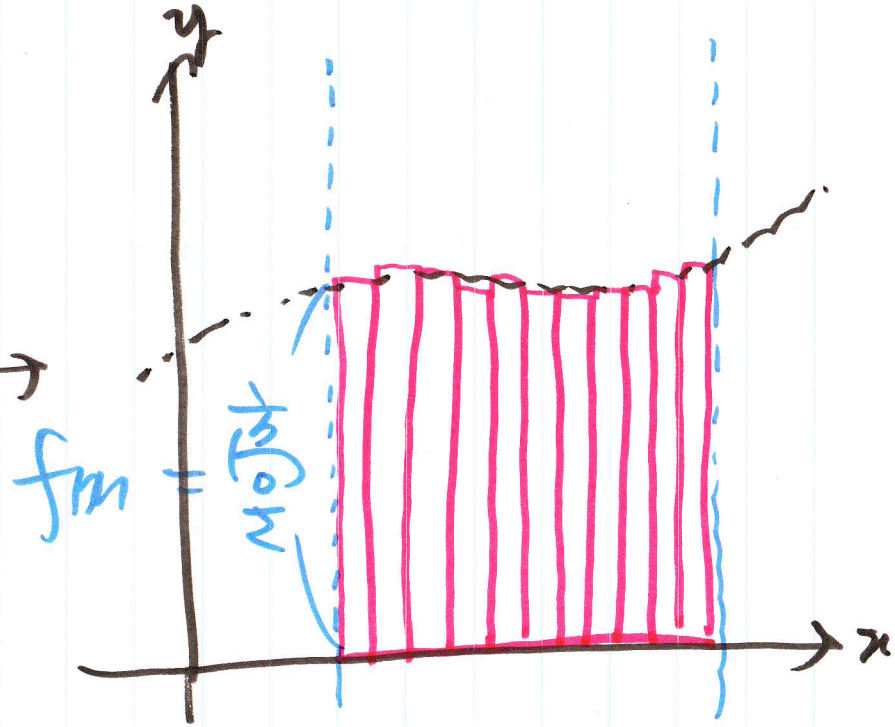
aからbまでの
定積分



$\int_a^b f(x)\,dx$ ：符号つき面積

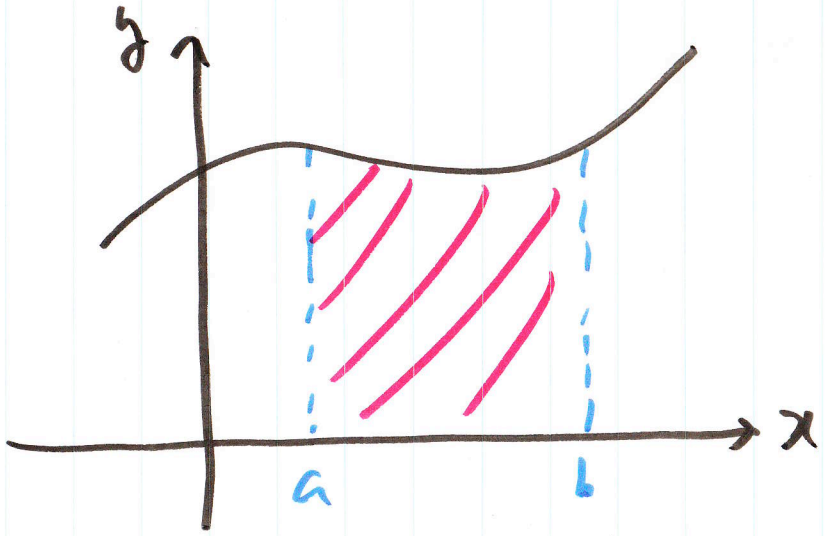
+, −



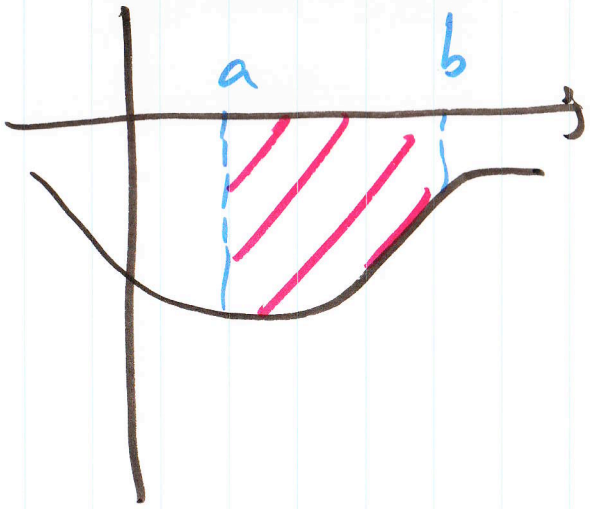


こまかく分割

面積＝長方形の面積の和



$$\int_a^b f(x)\,dx > 0$$



$$\int_a^b f(x)\,dx < 0$$

"斜線部の面積は"と聞かれたら

面積は

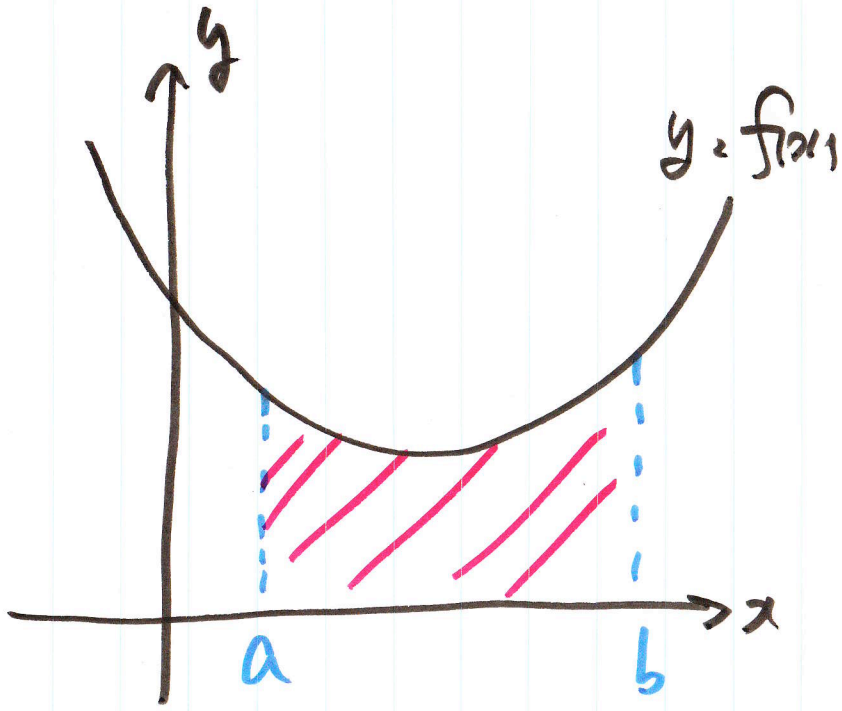
$$\int_a^b f(x)\,dx$$

面積は

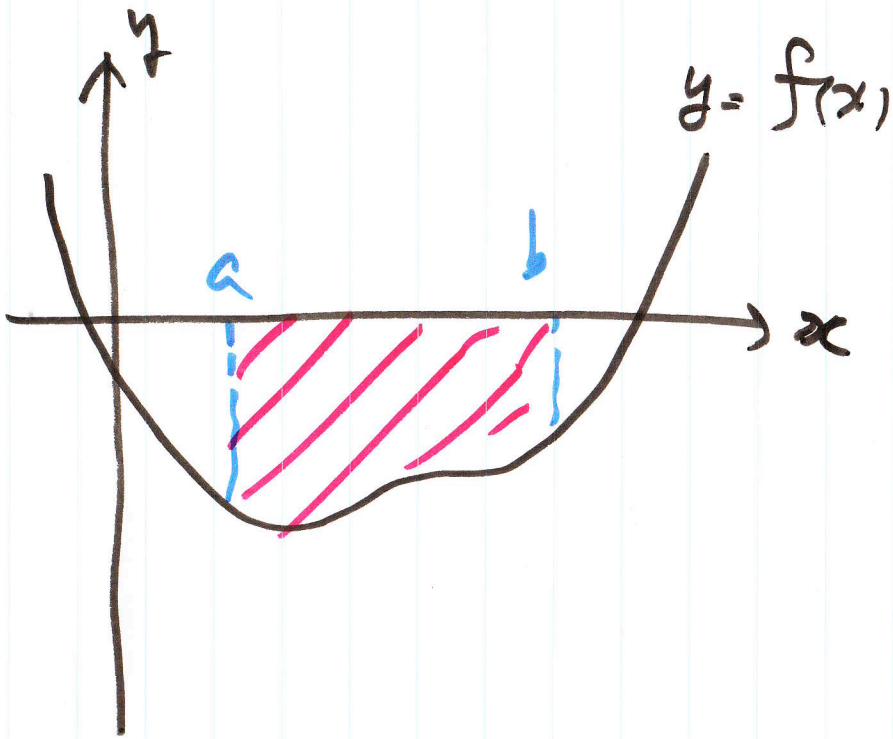
$$-\int_a^b f(x)\,dx$$

問題

斜線部の面積を
定積分の形で表せ.

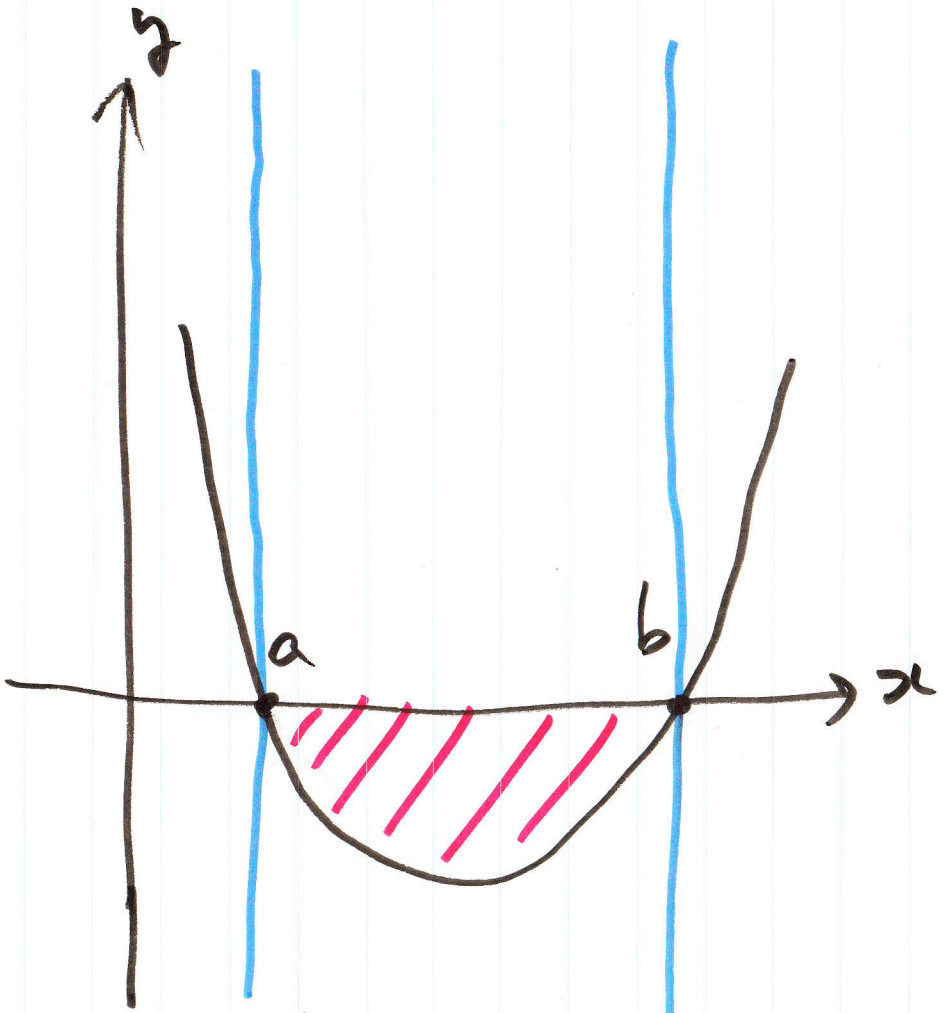


$$\int_a^b f(x)\,dx$$

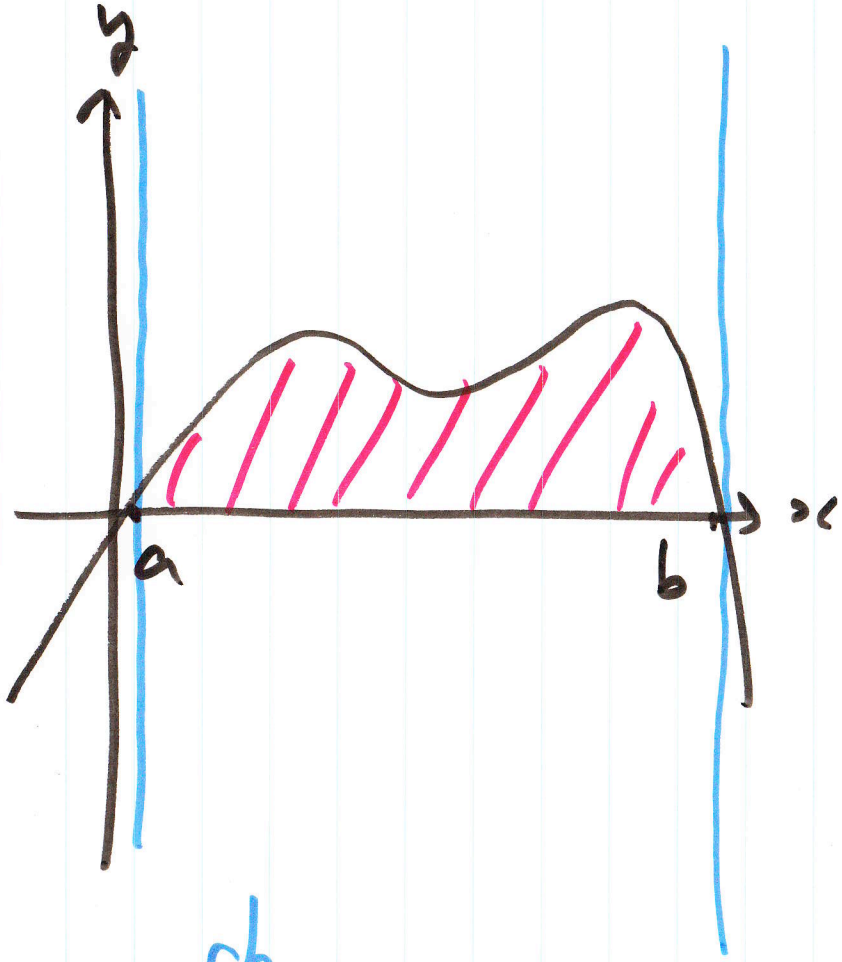


$$-\int_a^b f(x)\,dx$$

x軸との交点は、x=a, b

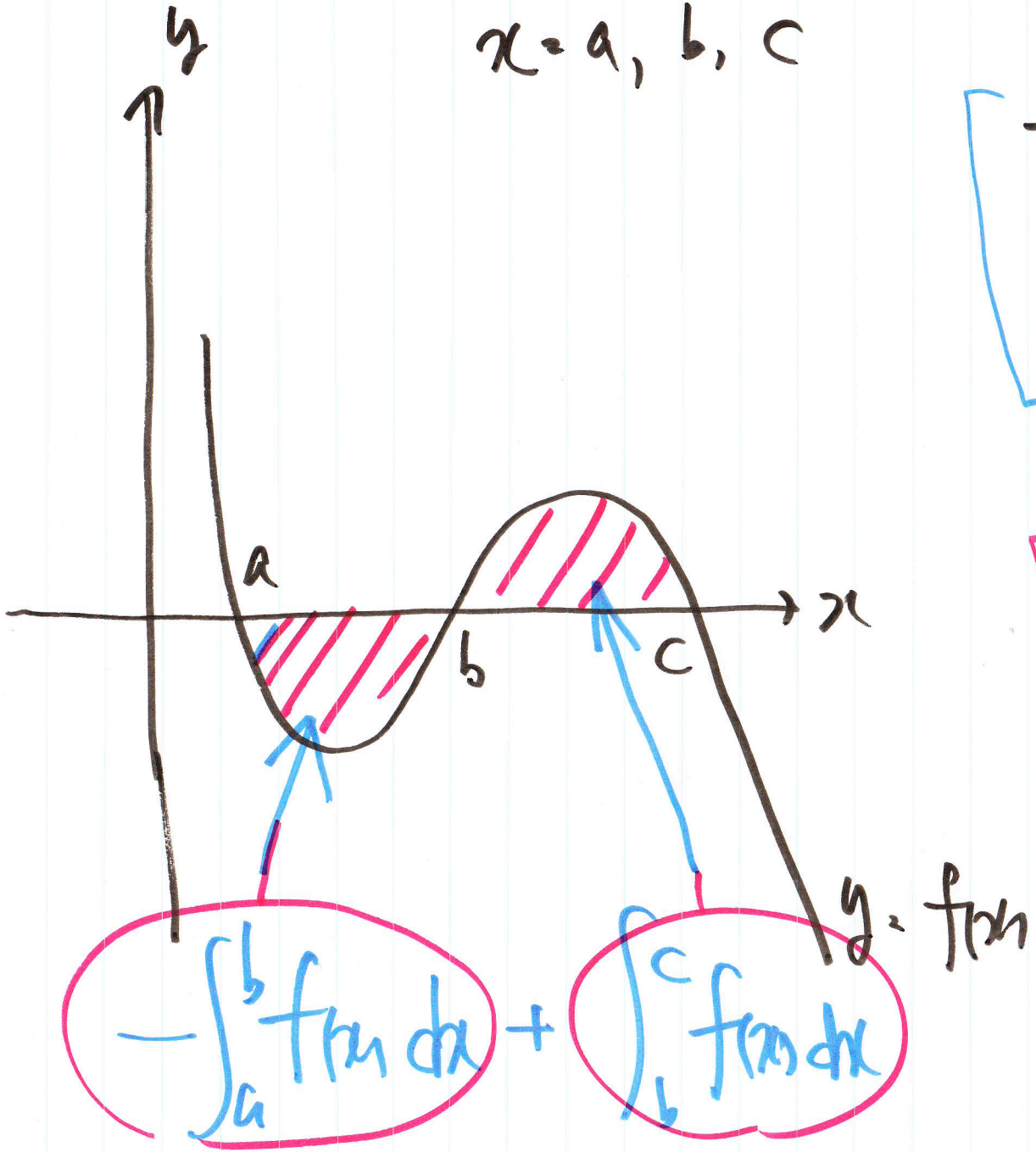


$$-\int_a^b f(x)\,dx$$



$$\int_a^b f(x)\,dx$$

x軸との交点は
$x = a, b, c$



Q. $y = f(x)$ と x軸 で囲まれる部分の面積を求めよ

↓

グラフの概形を調べる必要がある