MATH 1325

Chapter 13.5: The Fundamental Theorem Of Calculus

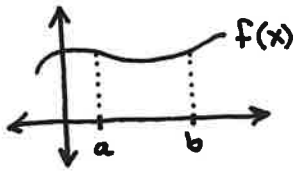
$\int f(x)\,dx$

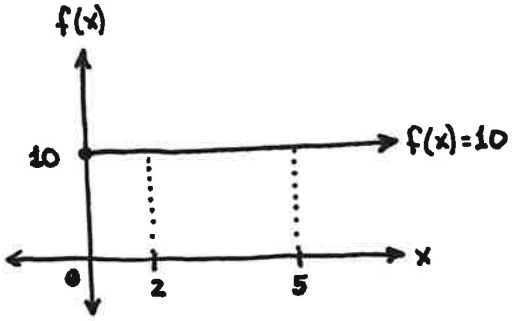
"ANTIDERIVATIVE OF $f(x)$"

$F(x) + C$

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

"AREA UNDER $f(x)$ FROM a TO b"





FIND THE AREA UNDER $f(x) = 10$ FROM 2 TO 5.

$\int 10\,dx$

$\int_2^5 10\,dx$

FUNDAMENTAL THEOREM OF CALCULUS:

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

EVALUATE THE INTEGRALS.

$\int_1^2 4t^3\,dt$

$\int_0^5 e^{2x}\,dx$

$\int_1^7 (4x^2-6x+7)\,dx$

$\int_1^2 \frac{dx}{x}$

EVALUATE $\int_0^5 x\sqrt{25-x^2}\,dx$.

FIND THE AREA BETWEEN THE X-AXIS AND $f(x)=\frac{1}{2}x^2-4x$ FROM $x=2$ TO $x=8$.