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Materia: _ matemáticas aplicada

DETERMINA EL AREA / INTEGRAL DEFINIDA.

$F(x) = x^2 - 4x - 5$

①

$$\int_{-1}^5 (x^2 - 4x - 5) dx$$
$$\left[\frac{x^3}{3} - 2x^2 - 5x \right]_{-1}^5$$
$$\left| \frac{(5)^3}{3} - 2(5)^2 - 5(5) - \left(\frac{(-1)^3}{3} - 2(-1)^2 - 5(-1) \right) \right|$$
$$\frac{125}{3} - 50 - 25 - \left(-\frac{1}{3} - 2 + 5 \right)$$
$$\frac{125}{3} - \frac{225}{3} + \frac{1}{3} + \frac{6}{3} - \frac{25}{3} \Rightarrow \frac{108}{3} \Rightarrow 36$$

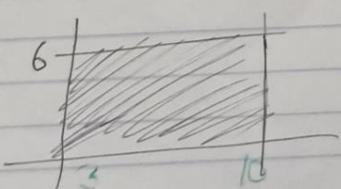
②

$F(x) = -x + 2$

$$\int_{-4}^5 \left(\frac{-x^2}{2} + 2x \right)$$
$$\left| \frac{-5^2}{2} + 2(5) - \left(\frac{-4^2}{2} + 2(-4) \right) \right|$$
$$-\frac{25}{2} + \frac{20}{2} + \frac{16}{2} + \frac{16}{2}$$
$$-\frac{5}{2} + \frac{32}{2} \Rightarrow \frac{27}{2} \Rightarrow 13.5$$

③

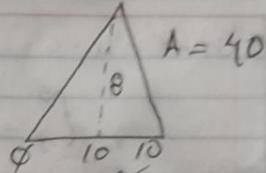
$F(x) = 6$
 $x = 6$


$$\int_3^{10} 6x$$
$$60 - 18x \Rightarrow 42 \quad A = 42$$

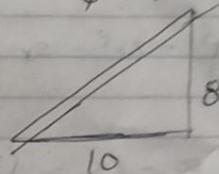
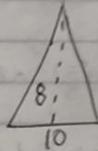
DETERMINA CI ANCA / INTEGRALI DEFINITI

$$f(x) = \frac{8x}{10}$$

$$M = \frac{dy}{dx} \quad M = \frac{11}{6}$$



$$\int_0^{10} \frac{8x^2}{10} \Rightarrow \frac{8x^2}{20}$$



$$\int_0^{10} \frac{2x^2}{5} \Rightarrow \frac{2(10)^2}{5} \Rightarrow \frac{2(100)}{5} = \frac{200}{5}$$

$A = 40$