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Nombre del trabajo: Ejercicios

Materia: Matemáticas aplicada

Grupo: recursos humanos



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

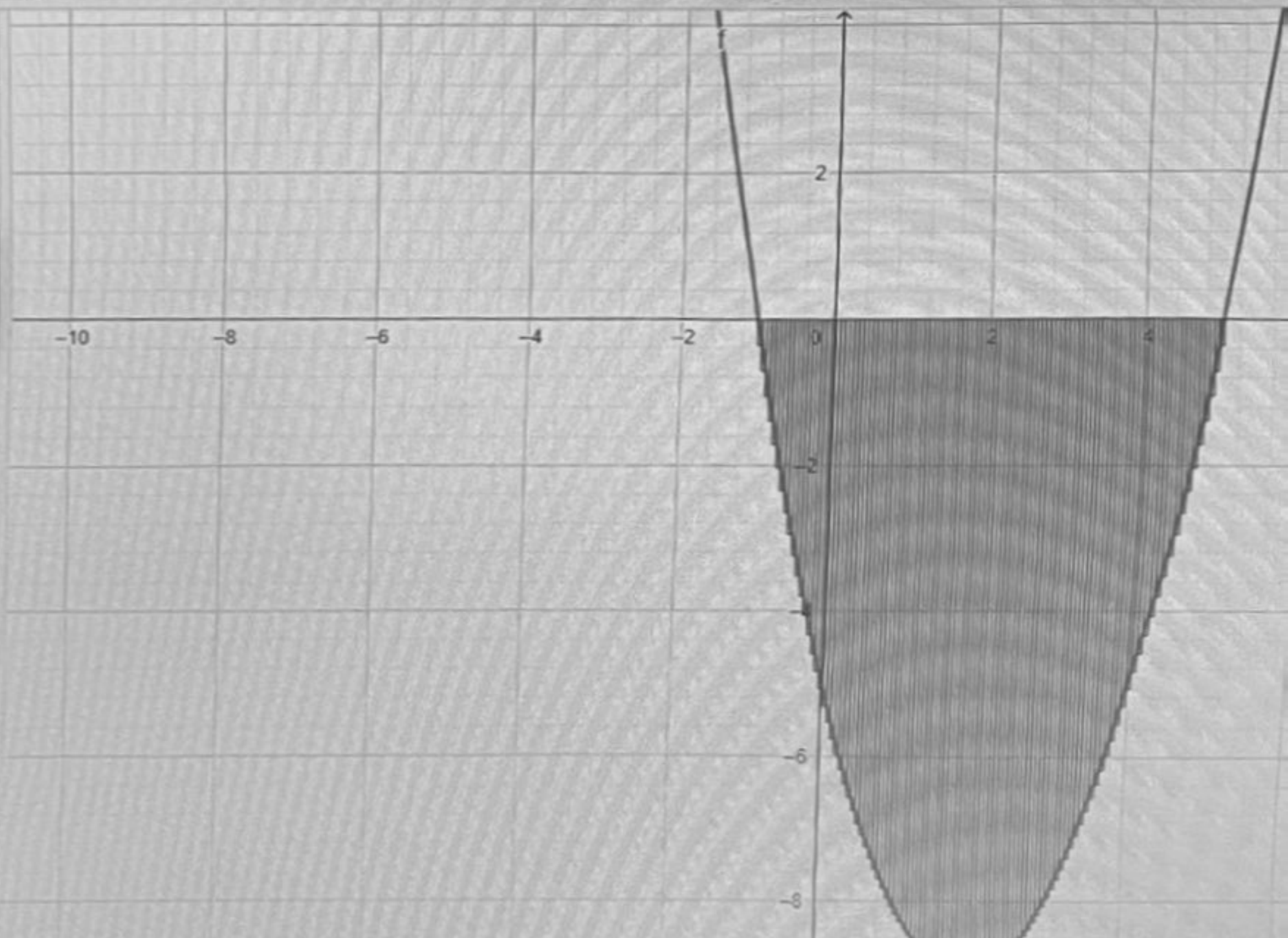


$$\text{SumaInferior}(f, -1, 5, 100)$$



$$= -36.54$$

SumaInferior(Función, Extremo inferior del intervalo, Extremo superior del intervalo, Número de rectángulos)

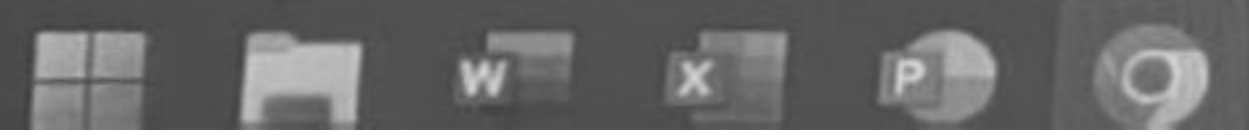
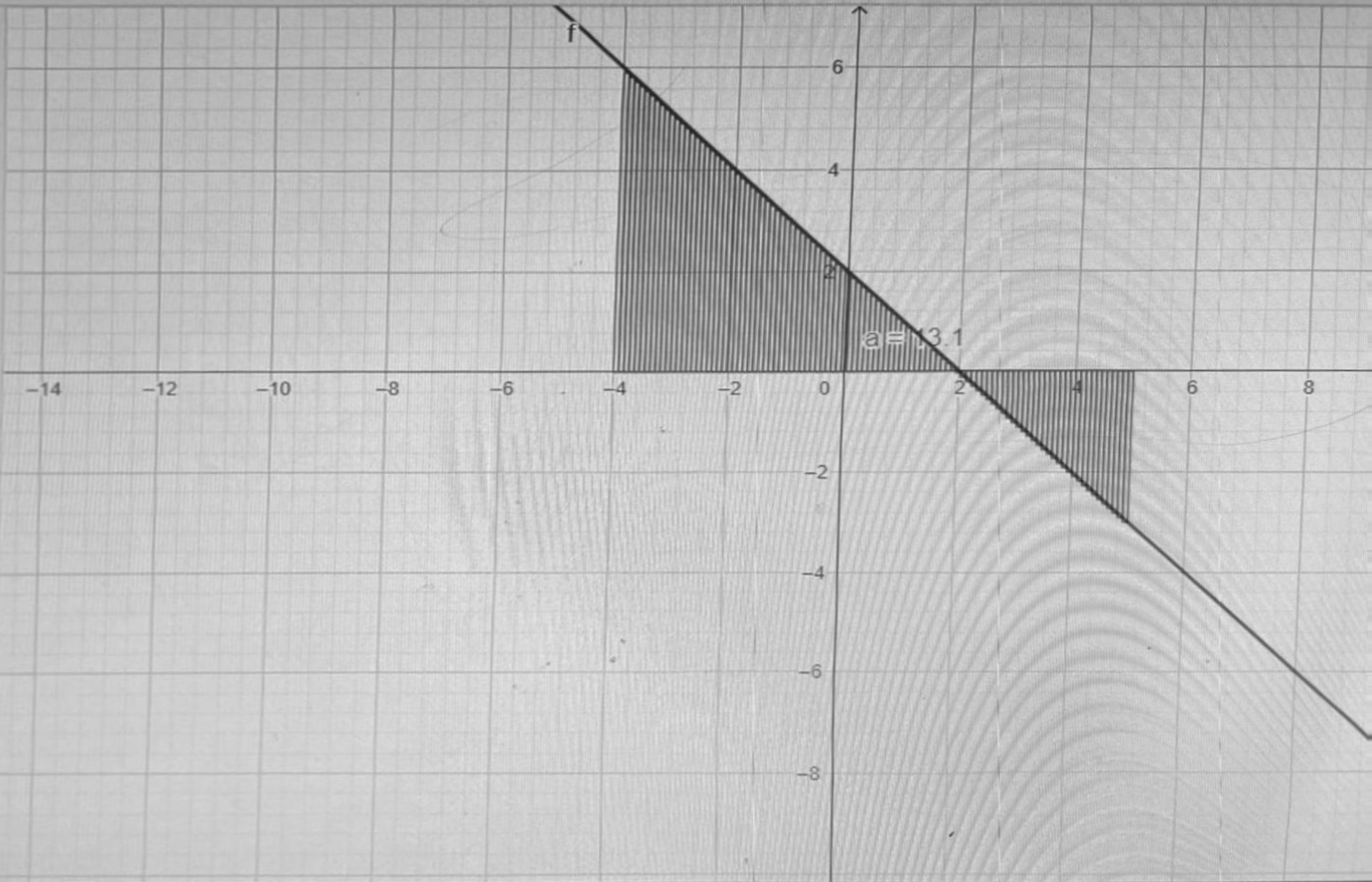


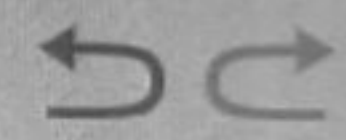


$f(x) = -x + 2$

$a = \text{SumaInferior}(f, -4, 5, 100)$
 $= 13.1$

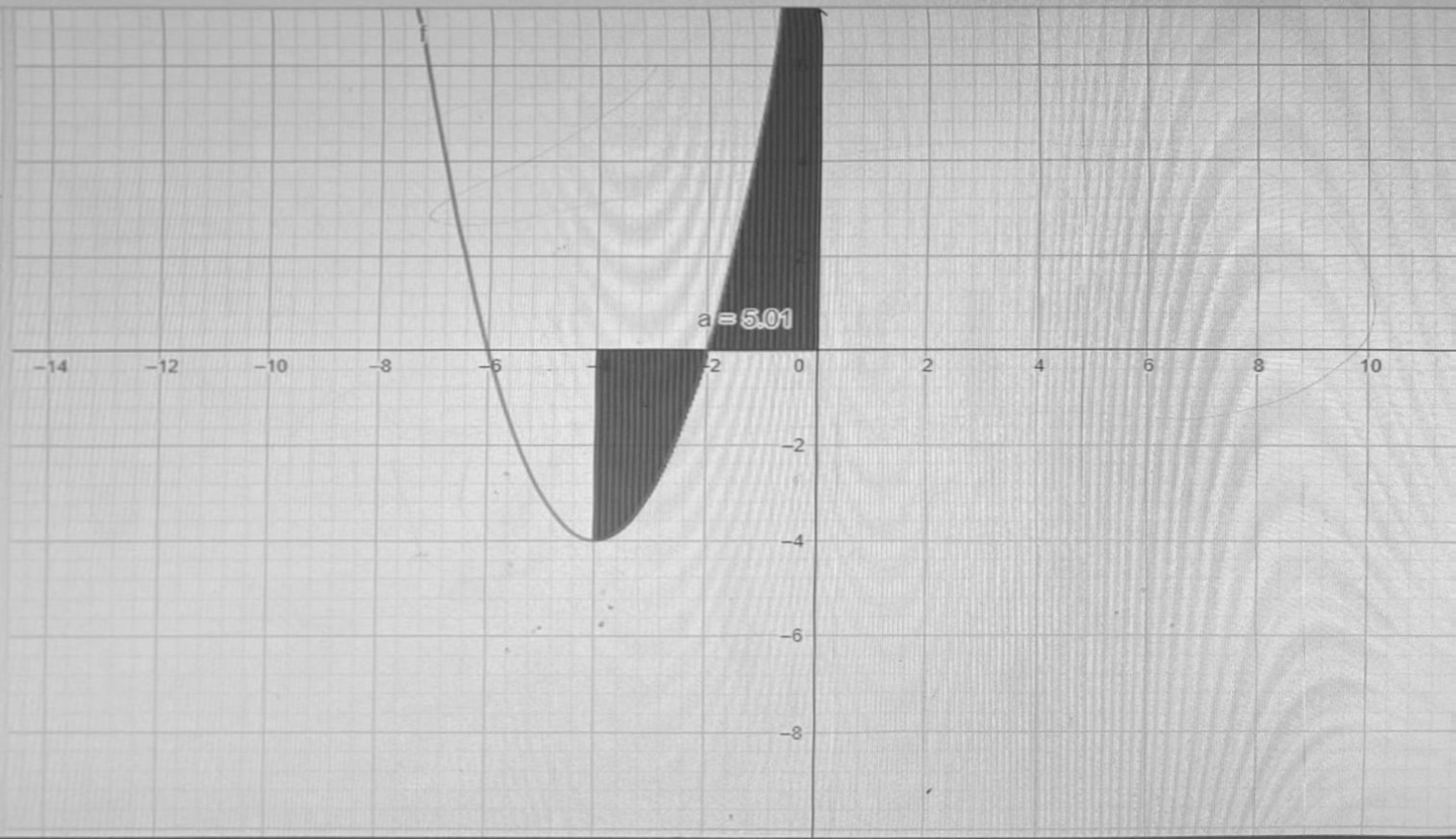
Entrada...





$f(x) = x^2 + 8x + 12$

$a = \text{SumaInferior}(f, -4, 0, 100)$
 $= 5.01$



①

$$\int_{-1}^5 \left(\frac{x^3}{3} - \frac{4x^2}{2} - 5x + c \right) dx$$

$$\left[\frac{x^4}{12} - 2x^2 - 5x + c \right]_{-1}^5 = \frac{5^4}{12} - 2(5)^2 - 5(5) - \left[\frac{(-1)^4}{12} - 2(-1)^2 - 5(-1) \right]$$

$$\frac{125}{3} - 50 - 25 - \left[\frac{1}{12} - 2 + 5 \right]$$

$$\frac{125}{3} - 75 - \left[\frac{1}{12} + 3 \right]$$

$$\frac{125}{3} - \frac{225}{3} - \left[\frac{1}{12} + \frac{36}{12} \right] \rightarrow \frac{100}{3} - \frac{37}{12} = \frac{400 - 37}{12} = \frac{363}{12}$$

②

$$\int_{-4}^5 (-x + 2) dx = -\frac{x^2}{2} + 2x + c$$

$$\left[-\frac{x^2}{2} + 2x \right]_{-4}^5 = \left[-\frac{25}{2} + 10 \right] - \left[-\frac{16}{2} - 8 \right]$$

$$-\frac{25}{2} + 10 - \left[-8 - 8 \right] = -\frac{25}{2} + 10 + 16 = -\frac{25}{2} + 26 = \frac{-25 + 52}{2} = \frac{27}{2}$$

$$-\frac{25}{2} + \frac{52}{2} = \frac{27}{2}$$

③

$$\int_{-4}^0 (x^2 + 8x + 12) dx$$

$$\left[\frac{x^3}{3} + \frac{8x^2}{2} + 12x \right]_{-4}^0 = \left[0 + 0 + 0 \right] - \left[\frac{(-4)^3}{3} + 8(-4)^2 + 12(-4) \right]$$

$$-\left[\frac{-64}{3} + 128 - 48 \right] = -\left[\frac{-64}{3} + 80 \right] = \frac{64}{3} - 80 = \frac{64 - 240}{3} = \frac{-176}{3}$$