

## Actividad modulo #1

a)  $(-3, 1)$

b)  $(1, 5)$

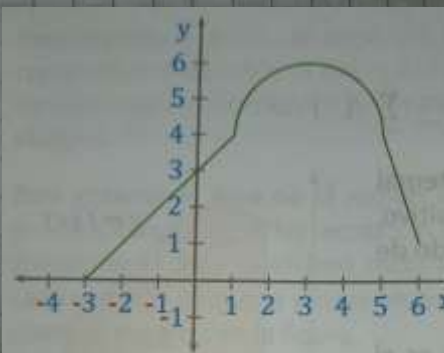
c)  $(5, 6)$

$$f(x) = mx + b$$

$$b = 3$$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$= \frac{4 - 3}{1 - 0} = \frac{1}{1} = \textcircled{1}$$



$$f(x) = x + 3$$

$$\int_{-3}^1 x + 3 dx = \int_{-3}^1 x^1 dx + \int_{-3}^1 3 dx$$

$$= \frac{x^2}{2} \Big|_{-3}^1 + 3x \Big|_{-3}^1$$

$$= \frac{(1)^2}{2} - \frac{(-3)^2}{2} + [3(1) - 3(-3)]$$

$$= \frac{1}{2} - \frac{9}{2} + 3 + 3$$

$$= \textcircled{2}$$

## Actividad modulo

2) Halla cada integral

$$\int_1^3 [g(x) dx = -5 \int_1^7 f(x) dx = 3 \int_1^3 g(x) dx = 6 \int_3^7 g(x) dx = -3$$

↓  
a)  $\int_1^7 5(f(x) - \frac{1}{2} g(x)) dx = 5 \int_1^7 (f(x) - \frac{1}{2} g(x)) dx =$

$$= 5 \left[ \underbrace{\int_1^7 f(x) dx}_{3} - \frac{1}{2} \int_1^7 g(x) dx \right]$$

$$= 5 \left[ 3 - \frac{1}{2} \left( \underbrace{\int_1^3 g(x) dx}_{-5} + \underbrace{\int_3^7 g(x) dx}_{-3} \right) \right]$$

$$= 5 \left[ 3 - \frac{1}{2} (-5 - 3) \right]$$

$$= 5 [3 + 4]$$

$$= 5 \cdot 7$$

$$= \boxed{35}$$

$$\textcircled{b} \int_1^7 -2 f(x) dx + \int_1^7 6 g(x) dx$$

$$= -2 \int_1^7 f(x) dx + 6 \int_1^7 g(x) dx$$

$$= -2 \times 3 + 6 \cdot (-8)$$

$$= -6 - 48$$

$$= \textcircled{-54}$$

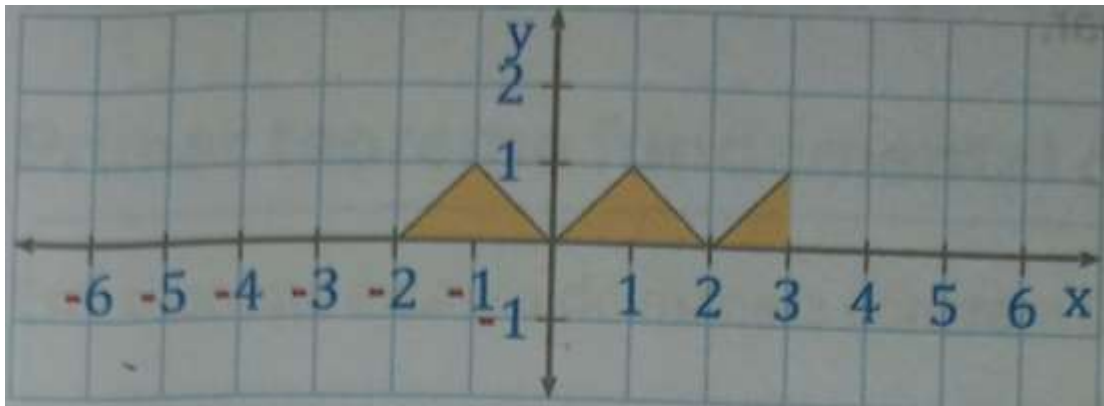
$$\textcircled{c} \int_1^7 (3 f(x) + g(x)) dx$$

$$= 3 \int_1^7 f(x) + \int_1^7 g(x)$$

$$= 3(3 + (-8))$$

$$= 3(-5) = 3 \cdot -5$$

$$= \textcircled{-15}$$



3) Escribe como una integral, cada representación.

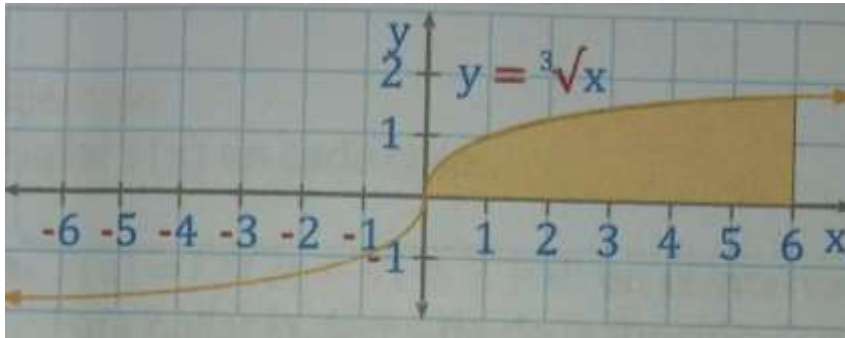
$$a) \int_2^3 x \, dx$$

$$= \frac{x^2}{2} \Big|_2^3 = \frac{3^2}{2} - \frac{2^2}{2} = \frac{9-4}{2} = \frac{5}{2}$$

$$= 2.5 \times 5$$

$$= 12.5$$





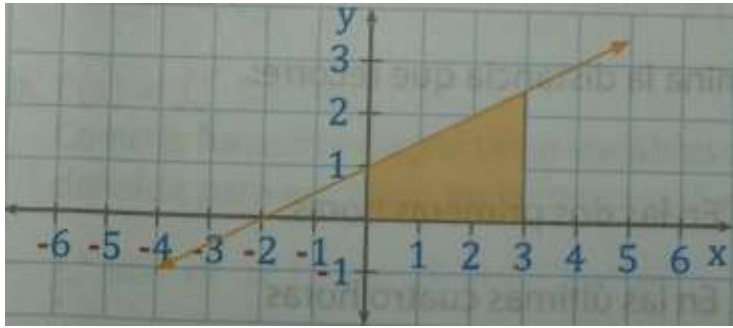
$$\textcircled{b} \int_0^6 \sqrt[3]{x} = \frac{1}{3} + 1 = \frac{1}{3} + \frac{3}{3} = \frac{4}{3} = \int_0^6 \frac{x^{4/3}}{\frac{4}{3}}$$

$$= \int_0^6 x^{1/3} dx = \int_0^6 \frac{3x^{4/3}}{4} = \frac{3\sqrt[3]{x^4}}{4}$$

$$= \left. \frac{3\sqrt[3]{x^4}}{4} \right|_0^6 = \frac{3\sqrt[3]{6^4}}{4} - \frac{3\sqrt[3]{0^4}}{4} = \frac{3 \cdot 11}{4} - \frac{0}{4}$$

$$= \frac{33}{4} - \frac{0}{4} = \frac{33}{4}$$

$$= \textcircled{8.25}$$



$$\textcircled{c} \int_0^3 \frac{x}{2} + 1$$

$$= \frac{x^2}{2} = \frac{x^2}{4} \Big|_0^3 = \frac{3^2}{4} - \frac{0^2}{4}$$

$$= \frac{9}{4} = \textcircled{2.25}$$