2 Halla cada integral si $\int_1^3 g(x)\,dx = -5$, $\int_1^7 f(x)\,dx = 3$, $\int_1^3 g(x)\,dx = 6$ y $\int_3^7 g(x)\,dx = -3$.

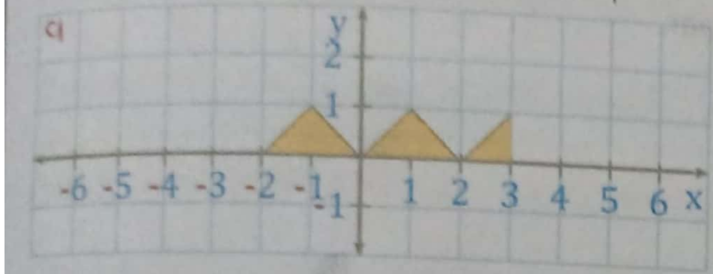
ⓐ $\int_1^7 5\left(f(x) - \frac{1}{2}g(x)\right) dx$ ⓑ $\int_1^7 (-2f(x) + 6g(x))\,dx$ ⓒ $\int_1^7 3(f(x) + g(x))\,dx$

a. $5\{3 - \frac{1}{2}(-5-3)\} = 5[3 - \frac{1}{2}(-8)] = 5[3+4] = 5 \cdot 7 = 35$

b. $-2\int_1^7 f(x)\,dx + 6\int_1^7 g(x)\,dx = -2 \cdot 3 + 6(-8) = -6 + -48 = -54$

c. $\int_1^7 3(f(x) + g(x))\,dx = 3 \cdot 3 + 6(-8) = 9 + -48 = -39$

3 Escribe como una integral, la representación del área bajo cada curva dada. Luego, calcula si es posible la integral.

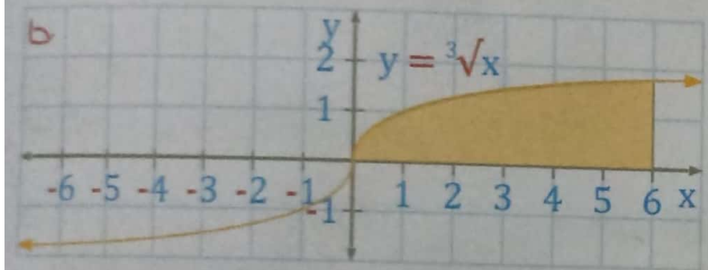


a. $\int_2^3 x\,dx$

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

$= 2\cdot 5 \times 5$

$= 12,5$



b. $\int_0^6 \sqrt[3]{x}$

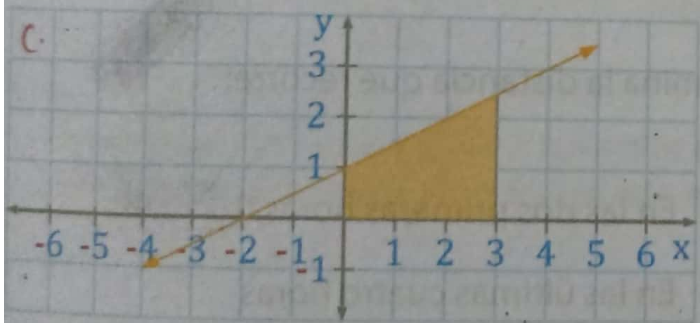
$= \int_0^6 x^{1/3}\,dx = \frac{1}{3}+1 = \frac{1}{3}+\frac{3}{3} = \frac{4}{3}$

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

$= \int_0^6 3\sqrt[3]{x^4}\Big|_0^6 \quad \frac{3\sqrt[3]{6^4}}{4} - \frac{3\sqrt[3]{0^4}}{4} = \frac{3\cdot 11}{4} = \frac{0}{4}$

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

$= 8.25$



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

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

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