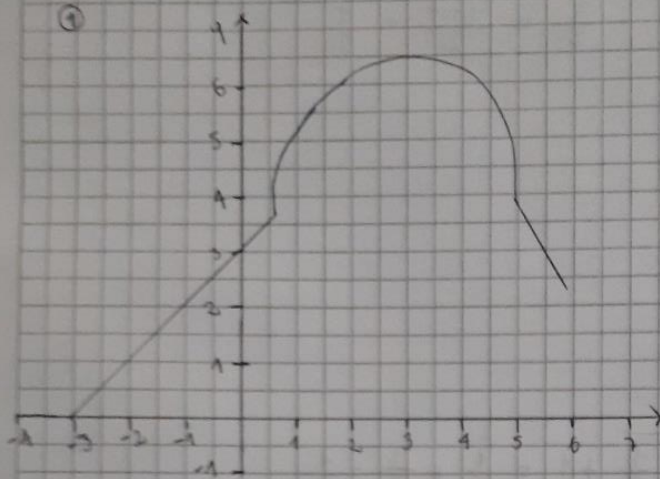


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$$a) 5 \left[ 3 - \frac{1}{2} (-5 - 0) \right] = 5 \left[ 3 - \frac{1}{2} (-8) \right] = 5 [3 + 4] = 5 \cdot 7 = 35$$

$$b) -2 \int_{-3}^3 f(x) dx + 6 \int_0^3 g(x) dx = -2 \cdot 3 + 6(-8) = -6 + 48 = -54$$

$$c) \int_{-3}^3 3(f(x) + g(x)) dx = 3 \cdot 3 + 6(-8) = 9 + 48 = -39$$

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

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

$$= 2.5 \times 5$$

$$= 12.5$$

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

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

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

$$= \int_0^6 \frac{3\sqrt[3]{x^4}}{4} \Big|_0^6 = \frac{3\sqrt[3]{6^4}}{4} - \frac{3\sqrt[3]{0^4}}{4} = \frac{3 \cdot 11}{4} = \frac{33}{4}$$

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

$$= 8.25$$

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

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

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