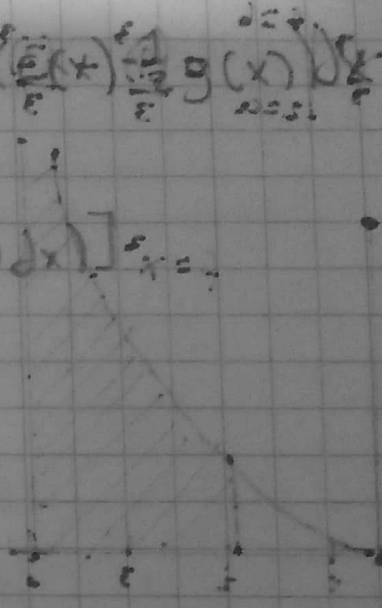


Solución

$$\begin{aligned}
 2a) \int_1^7 (f(x) + \frac{1}{2}g(x)) dx &= \int_1^7 (f(x) + \frac{1}{2}g(x)) dx \\
 &= \int_1^7 f(x) dx + \frac{1}{2} \int_1^7 g(x) dx \\
 &= 5 + \frac{1}{2} (\int_1^3 g(x) dx + \int_3^7 g(x) dx) \\
 &= 5 + \frac{1}{2} (-5 - 3) \\
 &= 5 + \frac{1}{2} (-8) \\
 &= 5 + (-4) \\
 &= 5 - 4 \\
 &= 1
 \end{aligned}$$


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

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

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

$$= -6 - 48 = -54$$

$$= -54$$

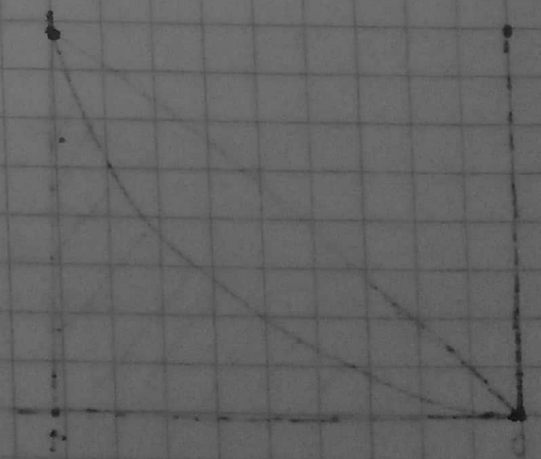
$$c) \int_1^7 3(f(x) + g(x)) dx$$

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

$$= 3(5 + (-8))$$

$$= 3 \cdot (-3) = -9$$

$$= -9$$



$$103 \quad 3^2$$

$$3 \int_2^3 x dx$$

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

$$= 2.5 \times 3$$

$$= 7.5$$

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

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

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

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

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

$$= 8.25$$

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

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

$$= 9 + 3 = 12$$