



Procedimiento

$$1 \int_{-2}^2 x^2 dx$$

$$\int x^2 dx$$

$$\frac{x^{2+1}}{2+1} = \frac{x^3}{3}$$

$$\frac{x^3}{3} \Big|_{-2}^2 = \frac{2^3}{3} - \frac{(-2)^3}{3} = \frac{16}{3}$$

$$2 \int_{-3}^3 (2x^2 + 3) dx$$

$$\int 2x^2 + 3 dx$$

$$\int 2x^2 dx + \int 3 dx$$

$$\frac{2x^3}{3} + 3x$$

$$\left(\frac{2x^3}{3} + 3x \right) \Big|_{-3}^3$$

$$\frac{2x^3}{3} + 3x - \left(\frac{2x(-3)^3}{3} + 3x(-3) \right) = 54$$



$$3. \int_{-3}^3 x^4(x^3-x) dx$$

$$\int x^4(x^3-x) dx \rightarrow x^7 - x^5 - x^4 \cdot x$$
$$\rightarrow x^7 - x^5$$

$$\int x^7 - x^5 dx$$

$$\int x^7 dx - \int x^5 dx$$

$$\int x^7 dx \rightarrow \frac{x^7+1}{7+1} = \frac{x^8}{8}$$

$$\frac{x^8}{8} - \int x^5 dx$$

$$= \frac{-\int x^5 dx}{x^{5+1}}$$
$$\frac{-\int x^5 dx}{5+1}$$

$$= -\frac{x^6}{6}$$

$$\left(\frac{x^8}{8} - \frac{x^6}{6} \right) \Big|_3^3$$

$$\frac{3^8}{8} - \frac{3^6}{6} - \left(\frac{(-3)^8}{8} - \frac{(-3)^6}{6} \right) = 0$$

$$5. \int_6^{12} 6(x) dx$$

$$\int_8^{12} (x+8) dx$$

$$\left. \frac{x^2}{2} + 8x \right|_8^{12}$$

$$\left(\frac{12^2}{2} + 8(12) \right) - \left(\frac{8^2}{2} + 8(8) \right)$$

$$168 - 96$$

$$\int_6^{12} 6(x) dx = 72$$

$$4. f(x) = 2x + 4$$

$$g(x) = x + 8$$

$$\int_0^2 (2x + 4) dx$$

$$\left. \frac{2x^2}{2} + 4x \right|_0^2$$

$$4 + 8 = 12$$