

20 / Octubre / 2021

Pasos Para Determinar la fuerza.

- Determinar los datos (cargas electricas y distancia que las separa).

Solucion

• Ponto uno se hizo en clase

• Ponto dos:

$$\begin{aligned}
 a: & \int_1^7 5 \left(f(x) - \frac{1}{2} g(x) \right) dx \\
 & = 5 \int_1^7 \left(f(x) - \frac{1}{2} g(x) \right) dx \\
 & = 5 \int_1^7 \left(3 - \frac{1}{2} \left(\int_1^3 g(x) dx + \int_3^7 5(x) dx \right) \right) dx \\
 & = 5 \int_1^7 \left(3 - \frac{1}{2} (-5-3) \right) dx \\
 & = 5 \int_1^7 \left(3 - \frac{1}{2} (-8) \right) dx \\
 & = 5 \int_1^7 (3 + 4) dx \\
 & = 5 \cdot 7 \\
 & = 35
 \end{aligned}$$

$$\begin{aligned}
 b: & \int_1^3 (-2f(x) + 6g(x)) dx \\
 & = -2 \int_1^3 f(x) dx + 6 \int_1^3 g(x) dx \\
 & = -2 \cdot 3 + 6(-8) \\
 & = -6 - 48
 \end{aligned}$$

$$\begin{aligned}
 c: & \int_1^3 3(f(x) + g(x)) dx \\
 & = 3 \left(\int_1^3 f(x) dx + \int_1^3 g(x) dx \right) \\
 & = 3(3 + (-8)) \\
 & = 3(-5) \rightarrow 3 \cdot -5 \rightarrow = -15
 \end{aligned}$$

• Ponto tres:

$$\begin{aligned}
 a: & \int_2^3 x^2 dx \\
 & = \frac{x^3}{3} \Big|_2^3 = \frac{3^3}{3} - \frac{2^3}{3} = \frac{27}{3} - \frac{8}{3} = \frac{19}{3} \\
 & = 2 \cdot 5 (x) 5 \\
 & = 12 \cdot 5
 \end{aligned}$$

$$\begin{aligned}
 b: & \int_0^6 \sqrt[3]{x} dx \\
 & = \int_0^6 x^{1/3} dx = \frac{1}{3+1} x^{3/3} = \frac{1}{4} x \\
 & = \int_0^6 \frac{3x^{1/3}}{4} = \frac{3\sqrt[3]{x^4}}{4} \\
 & = \int_0^6 3 \frac{\sqrt[3]{x^4}}{4} \Big|_0^6 = \frac{3\sqrt[3]{6^4}}{4} \Rightarrow \frac{3\sqrt[3]{1296}}{4} = \frac{3 \cdot 11}{4} = \frac{33}{4} \\
 & = \frac{33}{4} - \frac{0}{4} = \frac{33}{4} \\
 & = 8.25
 \end{aligned}$$

$$\begin{aligned}
 c: & \int_0^3 \frac{x}{2} + 1 dx \\
 & = \frac{x^2}{4} \Big|_0^3 - \frac{0}{4} = \frac{9}{4} \\
 & = \frac{9}{4} = 2.25
 \end{aligned}$$