

$$\int_2^6 (x - 2f(x)) dx = 16 \Rightarrow \int_2^6 x dx - 2 \cdot \int_2^6 f(x) dx = 16 \Rightarrow \underbrace{\frac{x^2}{2} \Big|_2^6}_{16} - 2 \cdot \int_2^6 f(x) dx = 16 \Rightarrow -2 \int_2^6 f(x) dx = 0$$

$$\int_0^4 \frac{1+f(\sqrt{x})}{\sqrt{x}} dx = 8 \rightarrow \sqrt{x} = u$$

$$\frac{1}{2\sqrt{x}} \cdot dx = du$$

$$\frac{1}{\sqrt{x}} dx = 2 \cdot du$$

$$\int_0^2 (1+f(u)) \cdot 2 \cdot du = 8$$

$$\star \int_2^6 f(x) dx = 0$$

$$\int_0^2 (1+f(u)) du = 4 \Rightarrow \int_0^2 1 \cdot du + \int_0^2 f(u) du = 4 \quad \rightarrow u=x, du=dx$$

$$\underbrace{u \Big|_0^2}_2 + \int_0^2 f(x) dx = 4$$

$$\star \star \int_0^2 f(x) dx = 2$$

integralleri veriliyor.

Buna göre,

$$\int_0^6 (f(x) + x) dx$$

integralinin değeri kaçtır?

- A) 20 B) 12 C) 8 D) -2 E) -4

\star ve $\star \star$ birleştirilirse

$$\int_0^2 f(x) dx + \int_2^6 f(x) dx = 2 + 0 \Rightarrow \int_0^6 f(x) dx = 2$$

$$\int_0^6 f(x) dx + \frac{x^2}{2} \Big|_0^6 = 2 + \left(\frac{36}{2} - 0 \right) = 2 + 18 = 20$$