7

a

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

$$\longrightarrow \int_{-1}^{1} g(x) \approx \omega_1 g(x_1) + \omega_2 g(x_2) + \cdots$$

$$\cdots + \omega_3 g(x_3) + \omega_4 g(x_4)$$

$$\longrightarrow -2\int_{-1}^{1} x e^{-2x^2}\,dx \approx -[(0.3479)2(-0.8612)e^{-(2\cdot 0.8612)^2} + \cdots$$

$$\cdots + (0.6521)2(-0.3400)e^{-(2\cdot 0.3400)^2} + \cdots$$

$$\cdots + (0.6521)2(0.3400)e^{-(2\cdot 0.3400)^2} + \cdots$$

$$\cdots + (0.3479)2(0.8612)e^{-(2\cdot 0.8612)^2}$$

$$\longrightarrow -2\int_{-1}^{1} x e^{-2x^2}\,dx \approx 3.470 \times 10^{-18} \approx \emptyset$$