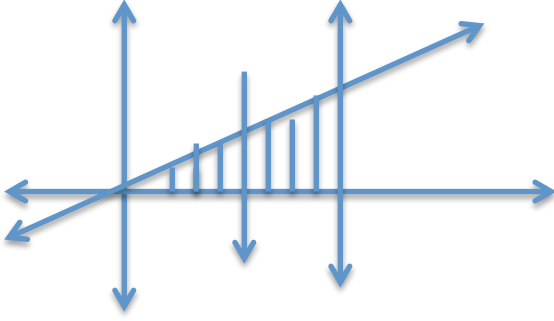


**Matematik**  
**Çalışma Soruları - 2**

**Çift Katlı İntegralde Sınır Değişirme**

**S1.**  $\int_0^1 \int_{3y}^3 e^{x^2} dx dy$  integralini hesaplayınız.



$$\int_0^1 \int_{3y}^3 e^{x^2} dy dx = \int_0^3 y e^{x^2} \Big|_0^{x/3} dx = \int_0^3 \frac{x}{3} e^{x^2} dx = \frac{1}{6} \int e^u du = \frac{1}{6} e^{x^2} \Big|_0^3 = \frac{1}{6} (e^9 - 1)$$