

$$\begin{aligned}
 \int_0^3 \int_{3y}^9 5e^{x^2} dx dy &= \int_0^9 \int_0^{x/3} 5e^{x^2} dy dx = \int_0^9 \left[5e^{x^2} y \right]_{y=0}^{y=x/3} dx \\
 &= \int_0^9 \left(\frac{5x}{3} \right) e^{x^2} dx = \frac{5}{6} e^{x^2} \Big|_0^9 = \frac{5(e^{81} - 1)}{6}
 \end{aligned}$$

