

$$\begin{aligned}\int_0^3 \int_0^{x^2} 3x \cos(y) dy dx &= \int_0^3 [3x \sin(y)]_{y=0}^{y=x^2} dx = \int_0^3 3x \sin(x^2) dx \\ &= -\frac{3}{2} \cos(x^2) \Big|_0^3 = \frac{3}{2}(1 - \cos(9))\end{aligned}$$