

$$\begin{aligned}\int_0^1 \int_1^7 \frac{xe^x}{y} dy dx &= \int_0^1 xe^x dx \int_1^7 \frac{1}{y} dy \\ &= [xe^x - e^x]_0^1 [\ln(|y|)]_1^7 \quad [\text{by integrating by parts}] \\ &= [(e - e) - (0 - 1)](\ln(7) - 0) = \ln(7)\end{aligned}$$