$\int\int\int_E (xy+z^2)dV, E=\{(x,y,z)\in\mathbb{R}^3, 0\le x\le 2, 0\le y\le 1, 0\le x\le 3\}$
$\int_0^2(\int_0^1(\int_0^3(xy+z^2)dz)dy)dx$

- $\int_0^3 xy+z^2dz=$
  $xyz+\frac{z^3}{3}\Big|_0^3=$
  $3xy+9$
- $\int_0^1 3xy+9dy=$
  $\frac{3xy^2}{2}+9y\Big|_0^1=$
  $\frac{3x}{2}+9$
- $\int_0^2 \frac{3x}{2}+9dx=$
  $\frac{3x^2}{4}+9x\Big|_0^2=$
  $3+18=21$