

$$\begin{aligned}\int_C z dx + x dy + y dz &= \int_0^1 t^5 \cdot 5t^4 dt + t^5 \cdot 3t^2 dt + t^3 \cdot 5t^4 dt \\ &= \int_0^1 (5t^9 + 8t^7) dt = \left[\frac{1}{2}t^{10} + t^8 \right]_0^1 = \frac{3}{2}\end{aligned}$$