Recitation - 241

May 19, 2023

---

1. $\int \cos^7(x)\ dx$

$$\int \cos^7(x)\ dx = \int \cos^6(x) \cdot \cos(x)\ dx$$
$$= \int \left(1 - \sin^2(x)\right)^3 \cdot \cos(x)\ dx$$
$$= \int \left(1 - \sin^2(x)\right)^3 \cdot \cos(x)\ dx$$

Let $u = \sin(x)$, then $du = \cos(x)\ dx$.

$$\int \cos^7(x)\ dx = \int \cos^6(x) \cdot \cos(x)\ dx$$
$$= \int \left(1 - \sin^2(x)\right)^3 \cdot \cos(x)\ dx$$
$$= \int \left(1 - \sin^2(x)\right)^3 \cdot \cos(x)\ dx$$