

Worksheet 2: due by the end of class, last class of week 2

① (a) $\int \cos z \cdot \sin^4 z \, dz$ (b) $\int \sin^3 t \, dt$ (c) $\int \sin^3 x \cdot \cos^2 x \, dx$

(d) $\int \cos^2 w \cdot \sin^2 w \, dw$ (e) $\int_0^{\pi/2} \sin(3x) \cdot \sin(x) \, dx$

② (a) $\int \frac{1}{x^2 \sqrt{x^2 - 9}} \, dx$; use $x = 3 \sec \theta$ (b) $\int x^3 \sqrt{9 - x^2} \, dx$; use $x = 3 \sin \theta$

(c) $\int \sqrt{1 - 4x^2} \, dx$ (d) $\int_0^{0.6} \frac{x^2}{\sqrt{9 - 25x^2}} \, dx$