

MATH 16
Instr. K. Ciesielski
Spring 2000

SAMPLE TEST # 2

Evaluate the following integrals. **Show your work.**

Ex. 1. $\int_0^{\pi} x^2 \cos x dx$

Ex. 2. $\int_0^{\sqrt{\pi/2}} x \cos(x^2) dx$

Ex. 3. $\int \frac{dx}{9 + 4x^2}$

Ex. 4. $\int 64 \cos^4 t dt$

Ex. 5. $\int \frac{\sin t}{\cos^3 t} dt$

Ex. 6. $\int \frac{dx}{x^2 \sqrt{x^2 + 4}}$

Ex. 7. $\int \frac{2x^2 - x - 4}{x^3 + 4x} dx$

Ex. 8. $\int \frac{x^3 + x}{x - 1} dx$

Ex. 9. $\int \frac{dx}{\sqrt{x} - \sqrt[3]{x}}$

Ex. 10. $\int \sqrt{\frac{1-x}{1+x}} dx$

Ex. 11. $\int_2^5 \frac{1}{\sqrt{x-2}} dx$

Ex. 12. $\int_{-\infty}^0 x e^x dx$