

Lesson 7-2 Integration by Parts

1- Evaluate $\int x \cos x \, dx$

- A- $= x \sin x - \cos x + c$
- B- $= x \sin x + \cos x + c$
- C- $= x \cos x + \sin x + c$
- D- $= -x \sin x + \cos x + c$

2- Evaluate $\int x \sin 4x \, dx$

- A- $= \frac{-1}{4} x \cos x + \frac{1}{16} \sin 4x + c$
- B- $= \frac{1}{4} x \cos 4x - \frac{1}{16} \sin 4x + c$
- C- $= \frac{-1}{4} x \cos 4x + \frac{1}{4} \sin 4x + c$
- D- $= \frac{-1}{4} x \cos 4x + \frac{1}{16} \sin 4x + c$

3- Evaluate $\int x e^{2x} \, dx$

- A- $= \frac{1}{2} x e^{2x} - \frac{1}{4} e^{2x} + c$
- B- $= \frac{1}{4} x e^{2x} - \frac{1}{4} e^{2x} + c$
- C- $= \frac{1}{2} x e^{2x} - \frac{1}{2} e^{2x} + c$
- D- $= \frac{1}{2} x e^{2x} - e^{2x} + c$

4- Evaluate $\int x \ln x \, dx$

- A- $= \frac{1}{4} x^2 \ln x - \frac{1}{4} x^2 + c$
- B- $= \frac{1}{2} x^2 \ln x + \frac{1}{4} x^2 + c$
- C- $= \frac{1}{4} x^2 (2 \ln x - 1) + c$
- D- $= 2x^2 \ln x + \frac{1}{4} x^2 + c$