Integration by Parts

Start with Problem A. After you determine the solution, find that answer and do the problem shown until all the problems are solved.

Name_____

Class_____ Date_____

A

$$\int x \ln x \, dx$$

B

If your last answer is, then do the problem below $\frac{x^2 \sin x^2}{2} - \frac{-\cos x^2}{2} + C$

$$\int (\ln x)^2 \, dx$$

C

If your last answer is, then do the problem below $\frac{x^2 \ln x}{2} - \frac{x^2}{4} + C$

$$\int \frac{x^3}{(x^2+5)^2} \, dx$$

D

If your last answer is, then do the problem below $\frac{x^3 e^{x^3}}{3} - \frac{e^{x^3}}{3} + C$

$$\int x \sin x \cos x \, dx$$

F

If your last answer is, then do the problem below $\frac{x^4 \ln 5x}{4} - \frac{x^4}{16} + C$

$$\int \frac{x^3 e^{x^2}}{\left(x^2+1\right)^2}\, dx$$

G

If your last answer is, then do the problem below $\frac{x \sin^2 x}{2} - \frac{x}{4} + \frac{\sin 2x}{8} + C$

$$\int x^3 \cos x^2\, dx$$

H

If your last answer is, then do the problem below $x(\ln x)^2 - 2x \ln x + 2x + C$

$$\int x^3 \ln 5x\, dx$$

I

If your last answer is, then do the problem below $-\frac{x^2}{2\left(x^2+5\right)} + \frac{1}{2}\ln\left(x^2+5\right) + C$

$$\int x^5 e^{x^3}\, dx$$