Name : _____ Score : _____

Teacher : _____ Date : _____

Integration by Parts

Find each indefinite integral.

1) $\int e^{x}\sin(x)\,dx$

2) $\int x^{2}\cos(4x)\,dx$

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

4) $\int \ln(x+6)\,dx$

5) $\int (5x+4)\cos(\frac{x}{6})\,dx$

6) $\int \frac{\ln(x)}{x}\,dx$

7) $\int \ln(x)\,dx$

8) $\int xe^{x}\,dx$

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Integration by Parts

Find each indefinite integral.

1) $\int e^{x}\sin(x)\,dx$

$\frac{1}{2}e^{x}(\sin(x) - \cos(x)) + C$

2) $\int x^{2}\cos(4x)\,dx$

$\frac{x^{2}\sin(4x)}{4} + \frac{2x\cos(4x)}{16} - \frac{2\sin(4x)}{64} + C$

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

$\frac{x^{2}e^{3x}}{3} - \frac{2x\,e^{3x}}{9} + \frac{2e^{3x}}{27} + C$

4) $\int \ln(x + 6)\,dx$

$(x + 6)\ln(x + 6) - x + C$

5) $\int (5x + 4)\cos(\frac{x}{6})\,dx$

$(30x + 24)\sin(\frac{x}{6}) + 180\cos(\frac{x}{6}) + C$

6) $\int \frac{\ln(x)}{x}\,dx$

$\frac{\ln^{2}(x)}{2} + C$

7) $\int \ln(x)\,dx$

$x\ln(x) - x + C$

8) $\int xe^{x}\,dx$

$e^{x}(x - 1) + C$

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