

Name : \_\_\_\_\_

Score : \_\_\_\_\_

Teacher : \_\_\_\_\_

Date : \_\_\_\_\_

## Integration by Parts

Find each indefinite integral.

1)  $\int \ln(x + 5) dx$

2)  $\int x\sqrt{x + 8} dx$

3)  $\int e^{-x} \cos(2x) dx$

4)  $\int \frac{\ln(x)}{x} dx$

5)  $\int x^2 \cos(2x) dx$

6)  $\int \ln(x) dx$

7)  $\int x^5 \sqrt{x^3 + 4} dx$

8)  $\int xe^x dx$



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## Integration by Parts

Find each indefinite integral.

1)  $\int \ln(x + 5) dx$

$$(x + 5)\ln(x + 5) - x + C$$

2)  $\int x\sqrt{x + 8} dx$

$$\frac{2}{15}(x + 8)^{\frac{3}{2}}(3x - 16) + C$$

3)  $\int e^{-x} \cos(2x) dx$

$$\frac{2 \sin(2x) - \cos(2x)}{5e^x} + C$$

4)  $\int \frac{\ln(x)}{x} dx$

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

5)  $\int x^2 \cos(2x) dx$

$$\frac{x^2 \sin(2x)}{2} + \frac{2x \cos(2x)}{4} - \frac{2 \sin(2x)}{8} + C$$

6)  $\int \ln(x) dx$

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

7)  $\int x^5 \sqrt{x^3 + 4} dx$

$$\frac{2}{45}(x^3 + 4)^{\frac{3}{2}}(3x^3 - 8) + C$$

8)  $\int xe^x dx$

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

