

Calculus WarmUp

Day after 6.3

Note: $\int x dx = \frac{x^2}{2} + C$

$$\begin{aligned} e^x &\rightarrow e^x \\ e^{2x} &\rightarrow 2e^{2x} \end{aligned}$$

Simplify each expression

1) $\int x^4 dx$
 $= \frac{x^5}{5} + C$

2) $\int \cos(5x) dx$
 $= \frac{1}{5} \sin(5x) + C$

3) $\int e^{\frac{1}{2}x} dx$
 $= 2e^{\frac{1}{2}x} + C$

4) $\int 4^x dx$
 $= \frac{4^x}{\ln 4} + C$

5) $\int \frac{5}{x+4} dx$
hint. first use rule #3 on page 289
 $= 5 \int \frac{1}{x+4} dx$
 $= 5 \ln|x+4| + C$

6) $\int \sqrt{x} dx = \int x^{\frac{1}{2}} dx$
 $= \frac{2x^{\frac{3}{2}}}{\frac{3}{2}} + C$

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3) $\int e^{\frac{1}{2}x} dx$

4) $\int 4^x dx$

5) $\int \frac{5}{x+4} dx$
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6) $\int \sqrt{x} dx$