WARMUP

Copy these formulas into your notes:

Section 6.2 continued:

$$\int \frac{1}{x}\,dx = \ln|x| + C$$

$$\int e^x\,dx = e^x + C$$

$$\int a^x\,dx = \frac{a^x}{\ln a} + C$$

$$\int \sin x\,dx = -\cos x + C$$

$$\int \cos x\,dx = \sin x + C$$

$$\int \sec^2 x\,dx = \tan x + C$$

OR

$$\int \frac{1}{\cos^2 x}\,dx = \tan x + C$$

ex: $\int_0^2 \left(\frac{x^3}{3} + 2x\right)dx = \int_0^2 \left(\frac{1}{3}x^3 + 2x\right)dx$

Definite Integral

$$= \frac{1}{3}\cdot\frac{x^4}{4} + \frac{2x^2}{2}$$

$$= \left[\frac{x^4}{12} + x^2\right]_0^2$$

$$= \left(\frac{2^4}{12} + 2^2\right) - \left(\frac{0^4}{12} + 0^2\right)$$

$$= \frac{16}{12} + 4 - 0$$

$$= \frac{4}{3} + \frac{12}{3} = \frac{16}{3}$$

$\int 5e^x\,dx = 5e^x + C$

↳ $5\int e^x\,dx$ ↑

$\int 10\sin x\,dx$

$10\int \sin x\,dx$

$-10\cos x + C$

p271-272 5, 7, 11, 15, 16, 18, 20, 28, 30, 44, 51, 52, 56, 60, 61, 63, 67, 69