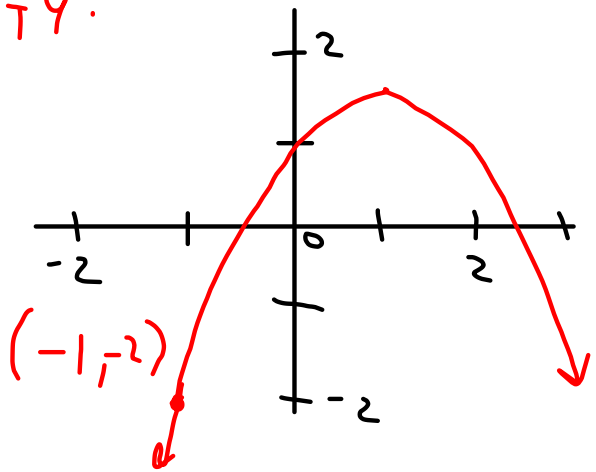
MON 02-27-06

R.B.F. (25) C (26) D

P. 312-314 (36) $y = -x^3 + x^2 + 4x + 1$

(44) ONE POSSIBILITY:



(*)

* $\int \sin^2 x \, dx = ?$ (NEXT PAGE...)

. TAKE ? FROM THE LAST FEW DAYS (DON'T BE SHY, BECAUSE I WON'T BE)

AP RB 23

$$4\int_1^{e^2}\frac{x-x^3}{x^2}\,dx = 4\int_1^{e^2}\left(\frac{1}{x}-x\right)dx$$

$$= 4\left[\ln|x| - \frac{1}{2}x^2\right]_{x=1}^{e^2}$$

$$= 4\left\{\ln e^2 - \frac{1}{2}e^2\right\} - 4\left\{\ln 1 - \frac{1}{2}1^2\right\}$$

$$= 4\left[2 - \frac{1}{2}e^2\right] - 4\cdot 0 + 2$$

$$= 8 - 2e^4 + 2$$

$$= \underline{10 - 2e^4} \quad E$$

(26) R.B.F.

$$f(x) = \begin{cases} x & x \le 0 \\ x+1 & x > 0 \end{cases}$$

$$\int_{-2}^{1} x \cdot f(x)\,dx = ?$$

$$= \int_{-2}^{0} x \cdot x\,dx + \int_{0}^{1} x \cdot (x+1) \cdot dx$$

$$= \int_{-2}^{0} x^2\,dx + \int_{0}^{1} (x^2 + x)\,dx$$

R.B.F. (24) $h(x) = f(x) \cdot g(x)$

$h'(3) = f(3) \cdot g'(3) + g(3) \cdot f'(3)$

$h'(3) = 1 \cdot 1 + 3 \cdot -\frac{1}{3} = 0$

C

$$\int \sin^2 x\,dx = ?$$

$\cos 2x = 1 - 2\sin^2 x$

$\frac{\cos 2x - 1}{-2} = \frac{-2\sin^2 x}{-2}$

$\frac{1}{2} - \frac{1}{2}\cos 2x = \sin^2 x$

$$= \int \left(\frac{1}{2} - \frac{1}{2}\cos 2x\right) dx$$

$$= \int \frac{1}{2}\,dx - \frac{1}{2}\int \cos 2x\,dx$$

$$= \frac{1}{2}x - \frac{1}{2}\left(\frac{1}{2}\sin 2x\right) + C$$

$$= \frac{1}{2}x - \frac{1}{4}\cdot \sin 2x + C = \frac{1}{2}x - \frac{1}{4}\cdot 2\cdot \sin x \cdot \cos x + C$$

$\frac{1}{2}$

$\frac{x}{2} - \frac{\sin(x)\cdot\cos(x)}{2}$

$\int((\sin(x))^2, x)$

MAIN RAD AUTO FUNC 2/30

Title: Feb 27 - 10:41 AM (5 of 6)

O.T.C.

- GET CAUGHT UP!
- ER#6 (p.34 exam)
- AP. B^4 p. 19-22

  78, 81, 82, 83, 86