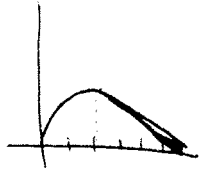



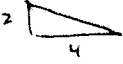
Math 121 HW # 4

7.3 176, 20, 25 (right endpts)

7.4 4, 17

7.3 #176



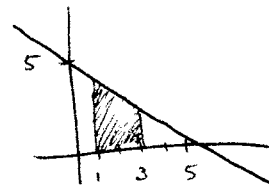
Two parts:  $\frac{1}{4}$ circle of radius 2
 area is $\frac{1}{4}\pi r^2 = \frac{1}{4}\pi \cdot 2^2 = \pi$
 triangle area is $\frac{1}{2}bh = \frac{1}{2} \cdot 4 \cdot 2 = 4$

Total area is $4 + \pi$.

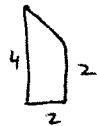
7.3 #20

$$\int_1^3 5-x \, dx$$

geometrically:



it's a trapezoid:



$$\text{so } \int_1^3 5-x = \frac{1}{2}(2+4) \cdot 2 = \frac{1}{2} \cdot 6 \cdot 2 = 6$$

7.3 #25 (right endpts)

$\Delta x = 5$, so it's

$$5 \cdot f(1985) + 5 \cdot f(1990) + \dots + 5 \cdot f(2005)$$

$$= 5 \cdot 818 + 5 \cdot 902.9 + 5 \cdot 962.1 + 5 \cdot 1084.1 + 5 \cdot 1128.3 = 24477$$

7.4 #4

$$\int_{-2}^2 4z + 3 dz = 2z^2 + 3z \Big|_{-2}^2 = 2(2)^2 + 3 \cdot 2 - (2 \cdot (-2)^2 + 3(-2)) \\ = 8 + 6 - (8 - 6) = 12$$

7.4 #17

$$\int_{-3}^{-2} 2e^{-.01y} + \frac{3}{y} dy$$

$$= \frac{2}{-.01} e^{-.01y} + 3 \ln|y| \Big|_{-3}^{-2}$$

$$= \frac{2}{-.01} e^{-.01 \cdot -2} + 3 \ln|-2| - \left(\frac{2}{-.01} e^{-.01 \cdot -3} + 3 \ln|-3| \right)$$

$$= -20e^{.2} + 20e^{.3} + 3 \ln 2 - 3 \ln 3 = 1.353$$