HW: #25

7.5

(3) $y = x^2 + 1$, $[0, 5]$ with 5 subintervals * Write $f(x) = x^2 + 1$

Left endpoint: $A \approx \frac{5-0}{5}\left(f(0) + f(1) + f(2) + f(3) + f(4)\right)$

$= \boxed{35}$

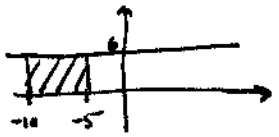
Right endpoint: $A \approx \frac{5-0}{5}\left(f(1) + f(2) + f(3) + f(4) + f(5)\right)$

$= \boxed{60}$

Midpoint: $A \approx \frac{5-0}{5}\left(f(0.5) + f(1.5) + f(2.5) + f(3.5) + f(4.5)\right)$

$= \boxed{\frac{185}{4} = 46.25}$

(20) (a) $\int_{-10}^{-5} 6\,dx$

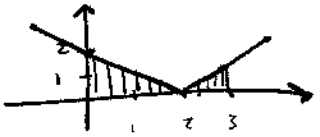


$A = 6 \cdot 5 = \boxed{30}$

(b) $\int_{-\pi/3}^{\pi/3} \sin(x)\,dx$

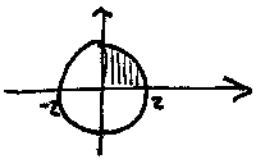
Areas cancel $\Rightarrow$ $A = \boxed{0}$

(c) $\int_{0}^{3} |x-2|\,dx$



$A = \frac{1}{2}(2 \cdot 2) + \frac{1}{2}(1 \cdot 1) = \boxed{\frac{5}{2}}$

(d) $\int_{0}^{2} \sqrt{4 - x^2}\,dx$

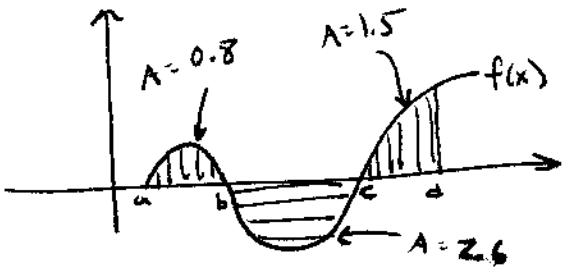


$A = \frac{1}{4}(\pi \cdot 2^2) = \boxed{\pi}$

HW 25

§ 7.5

(21)



(a) $\int_a^b f(x)\,dx =$ **0.8**

(b) $\int_b^c f(x)\,dx =$ **−2.6**

(c) $\int_a^c f(x)\,dx = 0.8 - 2.6 =$ **−1.8**

(d) $\int_a^d f(x)\,dx = 0.8 + 1.5 - 2.6 =$ **−0.3**