

HW17 HW17 ~~HW17~~

4.2 #2  $a_i = i^8$  5-10

A

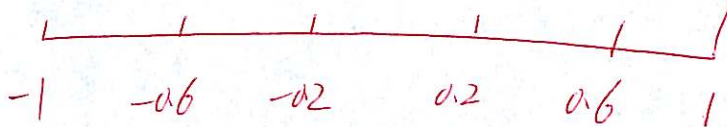
#3  $a_i = \frac{i^4}{3^i}$

$1-n$   
↑      ↑  
lower    upper  
lim      lim.

$f(i)$

$= \cancel{\frac{i^4}{3^i}}$

#5 ~~1/2~~



$$L = 0.4 (e^{-1} + e^{-0.6} + e^{-0.2} + e^{0.2} + e^{0.6}) = 1.91$$

$$U = 0.4 (e^{-0.6} + e^{-0.2} + e^{0.2} + e^{0.6} + e^1) = 2.85$$

4.3 #3 Assume we have: (any other order of a, b, c would yield same result)



$$7 \int_a^b f(x) dx + 7 \int_b^c f(x) dx - 5 \int_c^a f(x) dx$$

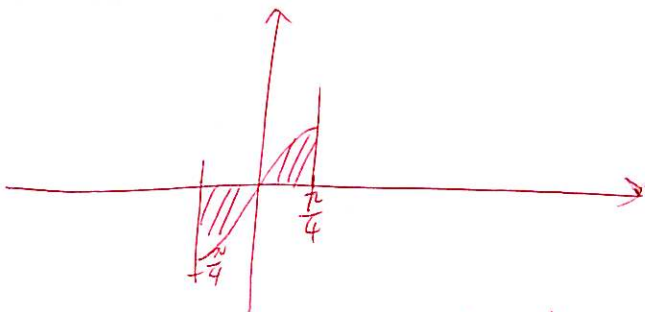
$$= 7 \int_a^c f(x) dx + 5 \int_a^c f(x) dx$$

$$= 12 \int_a^c f(x) dx$$

B

$$\#6. \int_{-\pi/4}^{\pi/4} \sin x dx$$

$$= \int_{-\pi/4}^0 \sin x dx + \int_0^{\pi/4} \sin x dx$$



same area, opposite sign.

$$\text{so } \underline{\text{Ans}} = 0.$$

OR  $\sin x$  is an odd fun<sup>n</sup> & hence  
 $\int_{-\pi/4}^{\pi/4} \sin x dx = 0.$