Homework 5.2:

① $y = \ln(x)$; $n = 2$; $4 \to 5$

$Ln = \frac{1}{2}[\ln(4) + \ln(4.5)]$

$Rn = \frac{1}{2}[\ln(4.5) + \ln(5)]$

underestimate and overestimate ↑

② $\int_0^{3\pi} 8 + \cos x \, dx$

$F(x) = 8x + \sin x \Big]_0^{3\pi}$

$8(3\pi) + \sin(3\pi) - 8(0) - \sin(0)$

$F(3\pi) - F(0) = 24\pi$

③ look at graph and analyze some bullshit!

④ $\int_{-8}^{0} 3 + \sqrt{64 - x^2} \, dx$

$\int_{-8}^{0} 3 \, dx + \int_{-8}^{0} \sqrt{64 - x^2} \, dx$

graph and determine

$3(0+8) + \frac{(8)^2\pi}{4} \Rightarrow 24 + 16\pi$

⑤