${\it Math~1720~Homework~8,~due~Friday~Mar~30.}$ Explain all answers and show all calculations.

(Problems in suggested order) 8.1: 31, 24, 25, 26, 35, 36, 42, 46, 51, 69

8.2: 10, 11, 16, 17, 20, 21

Hint: in 8.1:35 and 36, use a similar method to that used for calculating $\int \ln(x)dx$.