

# Correction

HWK. 11

pg 501 The Real #22.

$$\textcircled{22} \int_1^4 \sqrt{t} \ln t \, dt = \left[ \frac{2}{3} t^{3/2} \ln t \right]_1^4 - \frac{2}{3} \int_1^4 t^{1/2} \, dt$$

$$\begin{array}{l} u = \ln t \quad dv = \sqrt{t} \, dt \\ du = \frac{1}{t} \, dt \quad v = \frac{2}{3} t^{3/2} \ln t \end{array}$$

$$= \frac{2}{3} \cdot 8 \ln 4 - 0 - \left[ \frac{2}{3} \cdot \frac{2}{3} t^{3/2} \right]_1^4$$

$$= \frac{16}{3} \ln 4 - \frac{4}{9} (8 - 1) = \frac{16}{3} \ln 4 - \frac{28}{9}$$