

Problems 2

Find the leading term of the asymptotic expansion for each of the following integrals:
(x is large):

$$1) \int_1^x dt \frac{t^3}{\ln^2 t} \approx ?$$

$$2) \int_1^x dt \frac{\ln^2 t}{t^3} \approx ?$$

$$3) \int_1^x dt \frac{1}{t \ln t} \approx ?$$