

$$a) \int_1^{\infty} \frac{1}{x^2 + \ln x} dx \leq \int_1^{\infty} \frac{1}{x^2} dx$$

$$\int_1^{\infty} \frac{1}{x^2} dx = \left[ -\frac{1}{x} \right]_1^{\infty} = -\frac{1}{\infty} - \left( -\frac{1}{1} \right) = 1$$

$\downarrow$   
0

∴ konvergent

$$b) \int_1^{\infty} \frac{1}{x - \ln x} dx \leq \int_1^{\infty} \frac{1}{x} dx$$

$$\int_1^{\infty} \frac{1}{x} dx = \left[ \ln x \right]_1^{\infty} = \ln \infty - 0 = \infty$$

$\downarrow$   
 $\infty$

∴ divergent