

$$b) \quad f(x) = \frac{4}{x(1+4\ln x)^2} dx$$

$$u = (1+4\ln x)^2$$

$$\frac{du}{dx} = \frac{4}{x}$$

$$= \frac{4}{x(u)^2} dx$$

$$dx = \frac{du}{4^{-x}} = \frac{du}{\frac{4}{x}}$$

$$= \int \frac{4}{x(u)^2} \frac{du}{4^{-x}}$$