

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

$$u = 1 + 4\ln x$$

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

$$y = \int \frac{du}{u}$$

$$\int \frac{1}{u^2} du$$

$$\int u^{-2} du$$

$$= \frac{u^{-1}}{-1}$$

$$= -\frac{1}{u}$$

$$= -\frac{1}{1+4\ln x} + C$$

$$c) \int_{-2}^{1.5} \frac{3e^{2x}}{e^{2x}-1} dx$$

$$\int 3e^{2x} (e^{2x}-1)^{-\frac{1}{2}} dx$$

$$u = e^{2x}-1$$

$$\frac{du}{dx} = 2e^{2x}$$

$$\int 2(e^{2x}-1)^{-\frac{1}{2}} (e^{2x}-1)^{\frac{1}{2}} dx$$

$$\int (u-1)^{-\frac{1}{2}} du$$

$$\int (u-1)^{-\frac{1}{2}} du$$

$$\int (u-1)^{-\frac{1}{2}} du = 2(u-1)^{\frac{1}{2}} + C$$