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## Inverse function | Past Paper Question | OCR C3 June 2013 Q7(ii)

$$\text{If } f(x) = 3 + \frac{4}{e^x}, x \in \mathbb{R} \quad \therefore f^{-1}(x) = \ln \frac{4}{x-3}$$

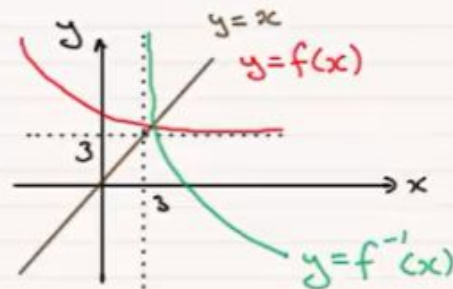
$$\text{let } x = 3 + \frac{4}{e^y}$$

$$\therefore x e^y = 3 e^y + 4$$

$$\therefore e^y (x - 3) = 4$$

$$\therefore e^y = \frac{4}{x-3}$$

$$\therefore y = \ln \frac{4}{x-3}$$



Domain:  $x > 3$

Range:  $f^{-1}(x) \in \mathbb{R}$

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