45 The total revenue from the sale of a product is given by:

$$R(x) = \frac{2500x}{\ln(10x+10)}$$

a) Find the marginal revenue.

$$MR = R'(x) = \frac{\ln(10x+10)(2500) - (2500x)\left(\frac{10}{10x+10}\right)}{[\ln(10x+10)]^2}$$

$$= \frac{2500\ln(10x+10) - \frac{25000x}{10x+10}}{[\ln(10x+10)]^2}$$

b) Find the marginal revenue when 100 units are sold, and interpret your result.

~~MR OR R(100)~~

$$MR = R'(100) = \frac{2500\ln(10(100)+10) - \frac{25000(100)}{10(100)+10}}{\ln(10(100)+10)^2}$$

$$= \frac{2500\ln(1010) - \frac{2500000}{1010}}{(\ln(1010))^2}$$

$$= 309.667$$