

(c) What is the marginal revenue if 200 units are sold, and what does it mean?

$$R'(200) = 300 - 2(200)$$

$$= 300 - 400$$

$= -100$ & the expected change in revenue from the 201st unit is about -100 .

- Sec 9.4: Derivative formulas:-

14) Find the derivatives:-

$$h(x) = 12x^{20} + 8x^{10} - 2x^7 + 17x^{-9}$$

$$\begin{aligned} \rightarrow h'(x) &= 12(20)x^{19} + 8(10)x^9 - 2(7)x^6 + 17 \\ &= 240x^{19} + 80x^9 - 14x^6 + 17 \end{aligned}$$

$$20) y = x^{-1} - x^{-2} + 13$$

$$\begin{aligned} \rightarrow y' &= -1x^{-2} - 2x^{-3} \\ &= -x^{-2} + x^{-3} \\ &= \frac{-1}{x^2} + \frac{1}{x^3} \end{aligned}$$

$$25) g(x) = \frac{3}{x^5} + \frac{2}{x^4} + 6\sqrt[3]{x} = 3x^{-5} + 2x^{-4} + 6x^{\frac{1}{3}}$$

$$\begin{aligned} \rightarrow g'(x) &= 3(-5)x^{-6} + 2(-4)x^{-5} + 6\left(\frac{1}{3}\right)x^{-\frac{2}{3}} \\ &= -15x^{-6} - 8x^{-5} + 2x^{-\frac{2}{3}} \end{aligned}$$

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$$= \frac{-15}{x^6} - \frac{8}{x^5} + \frac{2}{x^{\frac{2}{3}}}$$