Question 1:

$$p(x) = \frac{e^{\beta_0 + \beta_1 X}}{1 + e^{\beta_0 + \beta_1 X}} \qquad\qquad (4.2)$$

let : $e^{\beta_0 + \beta_1 X} = a$

$$p(x) = \frac{a}{1 + a}$$

$$p(x) + a\,p(x) = a$$

$$p(x) = a(1 - p(x))$$

$$\frac{p(x)}{1 - p(x)} = a$$

$$\frac{p(x)}{1 - p(x)} = e^{\beta_0 + \beta_1 X} \qquad\qquad (4.3)$$

✗

Question 9:

(a) $P(\text{Default}) = \dfrac{\text{odds}}{1 + \text{odds}} = \dfrac{0.37}{1 + 0.37} = 0.27$

∴ On average, default of credit card payment = 27%.

✗

(b) $P(\text{Default}) = \dfrac{\text{odds}}{1 + \text{odds}}$

$0.16 = \dfrac{\text{odds}}{1 + \text{odds}} \longrightarrow 0.16 + 0.16(\text{odds}) = \text{odds}.$

odds = 0.19

✗