

Statistics Assignment - 9

⑦ a) Probability

$$= \frac{1}{3} (0.9) + \frac{1}{3} (0.5) + \frac{1}{3} (0.3)$$

$$= \frac{17}{30}$$

$$b) \text{ Probability} = \frac{1}{3} (0.9)^2 + \frac{1}{3} (0.5)^2 + \frac{1}{3} (0.3)^2$$

$$(\text{win1, win2}) = \frac{23}{60}$$

$$\text{Probability (win2 | win1)}$$

$$= \frac{P(\text{win2, win1})}{P(\text{win1})}$$

$$= \frac{23}{34}$$

c) More reasonable assumption is conditional independence. This is because first game reveals the skill of opponent.