JU CHING CHU SECONDARY SCHOOL (T. M.)

F.5 MATHEMATICS TEST

(PROBABILITY 概率)

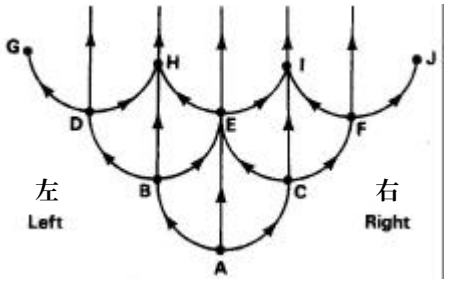
Answers may be corrected to ***2 decimal places*** if necessary.
若有需要答案至二*位小數*為準

1. Mr. Li has 3 sons & 2 daughters. Mr. Dang has 2 sons & 3 daughters. If ***a child is chosen*** at random from each family, what is the probability of choosing 1 boy & 1 girl ?
登輝有三子二女。小平有二子三女。現隨意從每一家庭選出一孩子，問所*選出的兩人*分別為一男孩和一女孩的概率是多少？ *(二十分)*

2. In a game, a player will either win, lose or draw. The probability that Yeltsin will win the game is $\frac{1}{6}$, the probability that he will lose is $\frac{1}{3}$. Find the probability that, ***in two games***, he will win exactly one game & draw exactly one game.
在一場比賽中，每一參賽者都有可能勝出、輸或賽和。國鋒勝出的概率是 $\frac{1}{6}$,輸的概率是 $\frac{1}{3}$ 。求在*兩場比賽*中，他會一場勝出和一場賽和的概率是多少。 *(二十分)*

3. There are 9 cards. 4 of them are white & 5 of them are red. Now, the cards are put into a box.
現有九張咭，其中四張為白色、五張為紅色。現將所有咭放於一箱內。
   (a) Clinton ***draws a card*** from the box, what is the probability that he will get a white card.
   耀邦從箱中*抽取一咭*，問抽得白咭的概率是多少？ *(四分)*
   (b) Bush ***draws 2 cards*** at random, without replacement, what is the probability of the following events:
   紫陽從箱中隨意*抽取兩咭*，而每次取出一咭後並不放回箱中，試計算以下事件的概率：
      (1) both cards are red;
      兩張都是紅咭。
      (2) the first card is red & the second card is white;
      第一張是紅咭而第二張是白咭。
      (3) one card is white & the other is red.
      一張是白咭而另二張是紅咭。 *(十六分)*
   (c) Reagan wants to get a white card, but he is ***not allowed to draw more than 2 cards***, what is the probability of his succeeding ?(The card drawn is not replaced)
   少奇想得到一張白咭，但他*最多只能抽兩次*，問他能成功取得白咭的概率是多少？(每次取出一咭後並不放回箱中) *(十分)*

4. The figure shows a network of road system. The letter **A** to **J** represent the road junctions, & the arrows indicate the moving direction of the cars in the system.
圖中所示為一個道路網系統。英文字母A至J分別表示該道路網中的路口，而箭咀表示汽車的行駛方向。



Mr. Major starts from **A**. The probability that he will turn left in a junction is $\frac{2}{5}$, turn right is $\frac{1}{4}$. Find the probability that he will
光耀駕車從該道路網的路口A處開始出發。已知當他駕駛至一路口時，他跟著會左轉的概率是 $\frac{2}{5}$,右轉的概率是 $\frac{1}{4}$ 。試求他會：
   (a) go straight forward,
   向前直駛。 *(六分)*

(b) reach junction **E**,
到達路口E。 *(六分)*

(c) reach junction **E** and then junction **H**,
到達路口E，然後路口H。 *(八分)*

(d) reach junction **I**.
到達路口I。 *(十分)*

的概率。

試卷完

END OF PAPER

數值答案

1. $\frac{13}{25}$ 2. $\frac{1}{6}$

3. (a) $\frac{4}{9}$ (b) (1) $\frac{5}{18}$ (2) $\frac{5}{18}$ (3) $\frac{5}{9}$ (c) $\frac{13}{18}$

4. (a) $\frac{7}{20}$ (b) $\frac{11}{20}$ (c) $\frac{11}{50}$ (d) $\frac{1}{4}$