

**MODULE**  
**MATHEMATICS FORM 5: CHAPTER 7 PROBABILITY**

<i>Housing estate</i>	<i>Number of students</i>	
	<i>Male</i>	<i>Female</i>
<i>Taman Bercham</i>	7	5
<i>Taman Gunung Rapat</i>	4	10
<i>Taman Ipoh</i>	6	3

- 1.a) If two students are chosen at random from the students who stay in Taman Bercham, calculate the probability that they are of different genders
- b) If two students are chosen at random from the group of females, calculate the probability that both of them are from same housing.

<i>Box</i>	<i>Number of coins</i>		
	<i>10 sen</i>	<i>20 sen</i>	<i>50 sen</i>
<i>A</i>	3	2	5
<i>B</i>	5	3	4

2. Two people draw the coin from different box. Calculate the probability that
- a) both of them draw a 10 sen coin,
- b) the total value of coins drawn is 70 sen or more.

<i>Name</i>	<i>Probability</i>		
	<i>Wate a soccer math</i>	<i>Go fishing</i>	<i>Play squash</i>
<i>Tom</i>	1/4	1/6	7/12
<i>Kamil</i>	2/5	1/3	4/15

3. Calculate the probability that both Tom and Kamil
- a) will not go fishing during the weekend
- b) will spend their weekend in the same way

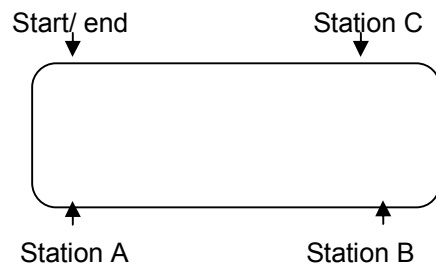
<i>Student</i>	<i>Probability of revising:</i>		
	<i>Math</i>	<i>Science</i>	<i>History</i>
<i>Haslinda</i>	4/7	1/5	8/35
<i>Mable</i>	1/6	11/24	3/8

4. Calculate that
- a) Haslinda revises History and Mable revise Science
- b) Haslinda and Mable revise the same subject

Box	Number of cards		
	Prize A	Prize B	Prize C
E	5	2	1
F	2	4	6

5. Calculate the probability that:
- Lee gets Prize A from Box E and Chong gets prize C from Box F.
  - Both of them get the same prize

6.



A group of 9 boys and 4 girls from a uniform body is chosen to help the officers on duty at station A, B and C.

- Two pupils from the group are chosen at random for duty at station A. Calculate the probability that both are boys.
- Two boys from the group are placed for duty at station A. Two other pupils are then chosen at random for duty at station B. Calculate the probability that they are of different gender.

Form	Number of cards	
	Boys	Girls
Four	4	9
Five	5	3

7. Two pupils from the group are selected to be leaders.
- A pupils is picked at random from form four another one from form five. Calculate the probability that both of them are boys.
  - Two pupils are picked at random from the girls, calculate the probability that both are from the same form.

8. A group of students comprising 4 boys and 5 girls volunteer to provide free tuition in a community centre. Each day, two students are chosen at random to perform the duty.

- Calculate the probability that both the students chosen on the first day are boys.
- The two boys who are chosen on the first day are exempted from being chosen on the second day. Calculate the probability that both the students chosen on the second day are the same gender.

9. In a quiz, there are three categories of questions consisting of 3 questions on Mathematics, 5 questions on History and 7 questions on Science. All the similar envelopes, each containing one question, are placed in a box. Each contestant is required to pick at random two envelopes from the box. Find the probability that the first contestant picks
- the first envelope with a Mathematics question and the second envelope with a Science question,
  - two envelopes with questions of the same category.

10. Eleven cards bearing the letters of the word 'MATHEMATICS' are placed in the box. Two cards are drawn at random from the box, one after another without replacement. Calculate the probability that
- the first card is not an 'E'
  - the first card is an 'E' and the second card is a 'M'
  - both cards bear the same letter.

11. The table shows the probabilities of Anuratha and Mimi borrowing each category of reading materials from school library in a certain week.

Student	Probability of choosing:		
	Magazine	Novel	Fiction
Anuratha	$\frac{4}{15}$	$\frac{2}{5}$	$\frac{1}{3}$
Mimi	$\frac{3}{10}$	$\frac{1}{2}$	x

- Find the value of x
- Calculate the probability that both Anuratha and Mimi borrow magazines.
- Calculate the probability that Anuratha and Mimi borrow the same reading material.

12. Table below shows the number of coupons in two boxes, A and B. The coupons are various values, RM1, RM2 and RM5. Students are given coupons as an incentive for selling bookmarks.

Box	Number of Coupons		
	RM 1	RM 5	RM 10
A	2	5	3
B	6	3	1

Students selling less than 100 bookmarks are given the chance to draw at random a coupon from box A. Students selling more than 100 bookmarks are given the chance to draw at random a coupon from box B. Ali sells 120 bookmarks. Lim sells 52 bookmarks.

Find the probability that

- both of them draw a RM 5 coupon,
- the total value of the two coupons drawn by them is less than RM 10

13. A group of 5 boys and 4 girls take part in a study on the type of plants found in a reserved forest area. Each day, two pupils are chosen at random to write a report.

- Calculate the probability that both pupils chosen to write the report on the first day are boys.
- Two boys do write the report on the first day. They are then exempted from writing the report on the second day. Calculate the probability that both pupils choose to write the report on the second day are of the same gender.

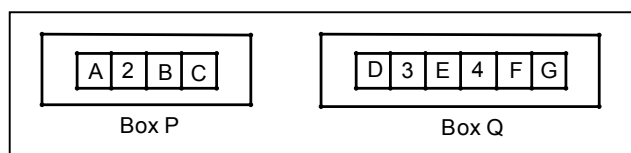
14. In a quiz contest, there are three categories of questions consisting of 5 questions on sport, 3 questions on entertainment and 7 questions on general knowledge.

Each question is placed inside an envelope. All of the envelopes are similar and put inside a box. All the participants of the quiz contest are requested to pick at random two envelopes from the box.

Find the probability that the first participant picks

- the first envelope with a sport question and the second with an entertainment question,.
- Two envelopes with questions of the same category.

15. Diagram below shows ten labeled card in two boxes.



A card is picked at random from each of the boxes.

By listing the outcomes, find the probability that

- both cards are labeled with a number
- one card is labeled with a number and the other card is labeled with a letter.

16. Suria and Chong will be attending Form 6 in 2010, they have the choice of choosing school A or school B.

The probability that Suria choose school A is  $\frac{2}{3}$  and

Chong choose school A is  $\frac{1}{4}$ .

Calculate the probability that

- Suria choose school B
- Suria choose school A and Chong choose school B.
- Both of them choose the same school