

- 1 There are 150 people at an international conference.
These 150 people were each asked to say what their main method of transport was to get to the conference.
The two-way table shows some information about these people and their answers.

	bus	train	plane	total
men		15		80
women	17			
total	29	43		150

- (a) Complete the two-way table.

(3)

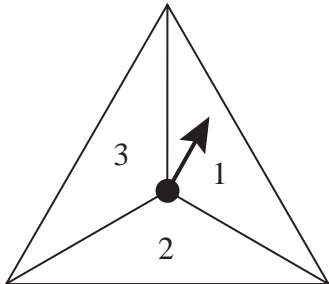
One of the men from these 150 people is selected at random.

- (b) Write down the probability that this man’s main method of transport was train.

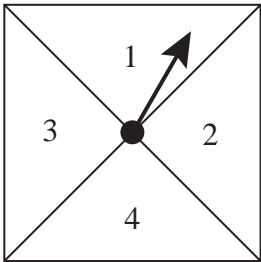
(1)

(Total for Question 1 is 4 marks)

2 Here are two fair spinners.



Spinner A



Spinner B

Chanthira spins each spinner once.

She adds together the number that spinner A lands on and the number that spinner B lands on to find the score.

(a) Complete the table to show all possible scores.

Three scores have been done for you.

		Spinner B			
		1	2	3	4
Spinner A	1	2	3		
	2	3			
	3				

(2)

(b) Find the probability that the score will be 4 or less.

(2)

Chanthira now spins both spinners together 84 times.

- (c) Find an estimate for the number of times that spinner **A** and spinner **B** land on the same number.

.....
(2)

(Total for Question 2 is 6 marks)

- 3 Pavel asked 60 people at an airport where they came from.
All of the 60 people came from Europe or Africa or Asia.
- 9 people came from Africa.
14 females came from Europe.
3 males came from Africa.
16 of the 29 males came from Asia.

Using this information, complete the two-way table.

	Europe	Africa	Asia	Total
Male				
Female				
Total				

(Total for Question 3 is 4 marks)

- 4 Lin has 60 bricks.
He puts his 60 bricks into a bag.

Some information about the 60 bricks is shown in the two-way table.

	orange	blue	yellow	Total
small		7	14	
large	13			33
Total		23		60

- (a) Complete the two-way table.

(3)

One of the bricks is taken at random from the bag.

- (b) Write down the probability that this brick is blue.

.....
(1)

Lin now puts all his large bricks into a sack.
He takes at random a large brick from the sack.

- (c) Write down the probability that this large brick is orange.

.....
(2)

(Total for Question 4 is 6 marks)

5 150 students were each asked to name their favourite sport from hockey, rugby and football.
The two-way table gives information about the results.

	Hockey	Rugby	Football	Total
Year 10		42		78
Year 11	27			
Total	39	58		150

(a) Complete the two-way table. (3)

(b) Work out what percentage of the 150 students are in year 10

..... %
(2)

(Total for Question 5 is 5 marks)

- 6 The two-way table shows some information about the 60 noodle meals eaten in a noodle bar by each of 60 people last Friday.

		Type of noodle		
		Ramen	Soba	Udon
Type of cooking	Boiled	18		
	Fried		12	7
Total				15
				60

- (a) Complete the two-way table. (3)

One of the 60 people is selected at random.

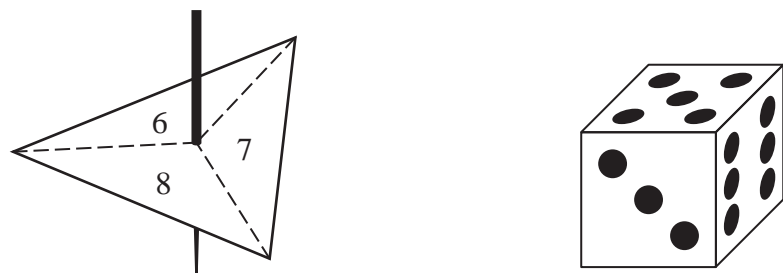
- (b) Write down the probability that this person ate Fried Udon noodles.

(1)

(Total for Question 6 is 4 marks)

7 Grace has a fair spinner and a fair dice.

The spinner is 3-sided and can land on 6, 7 or 8
The dice can land on 1, 2, 3, 4, 5 or 6



Grace spins the spinner once and throws the dice once.

Grace subtracts the number that the dice lands on from the number that the spinner lands on to get her score.

(a) Complete the table to show all possible scores.
Eight of the scores have been done for you.

		Number on dice					
		1	2	3	4	5	6
Number on spinner	6	5	4	3	2	1	0
	7			4			
	8		6				

(2)

Grace spins the spinner once and throws the dice once.

(b) Find the probability that her score is less than 6

(1)

(c) Find the probability that her score is an odd number.

(1)

(Total for Question 7 is 4 marks)

8 Mario asked 100 students in his school to name their favourite card game.

His results are shown in the two-way table below.

	Solitaire	Rummy	Whist	Total
Year 10	30	19	4	53
Year 11	17	18	12	47
Total	47	37	16	100

One of the students Mario asked is picked at random.

(b) Write down the probability that this student is in Year 11

.....
(1)

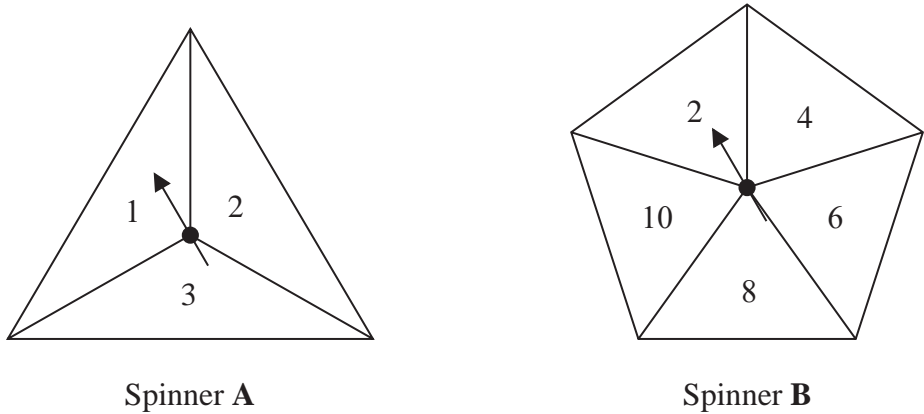
One of the Year 10 students is picked at random.

(c) Work out the probability that this student did **not** answer Whist.

.....
(2)

(Total for Question 8 is 3 marks)

- 9 Jian has two fair spinners.
- Spinner **A** is 3-sided and can land on 1, 2 or 3
- Spinner **B** is 5-sided and can land on 2, 4, 6, 8 or 10



Jian spins each spinner once.

He adds together the number that spinner **A** lands on and the number that spinner **B** lands on to get his total score.

(a) Complete the table to show all possible total scores.

Five of the total scores have been done for you.

Spinner A				
		1	2	3
Spinner B	2	3		
	4			7
	6	7		
	8		10	
	10		12	

(2)

- (b) Find the probability that
- (i) Jian’s total score is an odd number

(1)

- (ii) Jian’s total score is less than 9

(1)

10 Bohai works in a shop that sells mobile phones.
Last week he sold one mobile phone to each of 300 customers.

The incomplete two-way table shows some information about these mobile phones.

	32 GB	64 GB	128 GB	Total
type A	75		83	195
type B		29		
Total	127			300

(a) Complete the two-way table.

(3)

Bohai selects at random one of these 300 customers.

(b) Write down the probability that this customer bought a type **B**, 64 GB mobile phone.

.....
(1)

Bohai now selects at random one of the customers who bought a type **A** phone last week.

(c) Write down the probability that this customer bought a 128 GB mobile phone.

.....
(2)

(Total for Question 10 is 6 marks)

- 11** The two-way table shows some information about the desserts chosen at lunch yesterday by the 80 students from Year 5 and Year 6.
Each student chose one dessert from apple pie or fruit or ice cream.

	apple pie	fruit	ice cream	Total
Year 5	22	6		
Year 6			2	44
Total	56			80

(a) Complete the two-way table.

(3)

- (b) What fraction of these 80 students were in Year 5 **and** chose apple pie?
Give your answer in its simplest form.

(2)

(Total for Question 11 is 5 marks)

12 There are 120 cyclists in a cycling club.
There are 67 professional cyclists and the rest are amateur cyclists.
Each of these cyclists was asked to name their favourite type of bike.

The two-way table shows some information about their answers.

	Road bike	Mountain bike	Hybrid bike	Total
Professional	26			67
Amateur		32		
Total	39	54		120

(a) Complete the table.

(3)

(b) Work out the percentage of the cyclists who answered Mountain bike.

..... %
(2)

Jacob is going to draw a pie chart for the age groups of the 120 cyclists.
There are 41 people in the ‘over 60’ age group.

(c) Work out the size of the angle for the sector representing the ‘over 60’ age group.

.....
(2)

- 13** 180 passengers travelled either to Seoul or to Tokyo.
They travelled either business class or economy class.

Of these 180 passengers

51 travelled business class to Seoul
69 travelled economy class to Tokyo
86 in total travelled business class

Use this information to complete the two-way table.

	Seoul	Tokyo	Total
Business class			
Economy class			
Total			

(Total for Question 13 is 3 marks)
