TB(1B) Ch. 14 Simple Statistical Diagrams and Graphs (I)
Conventional Questions

1.   [11-12 Final Exam Q8]
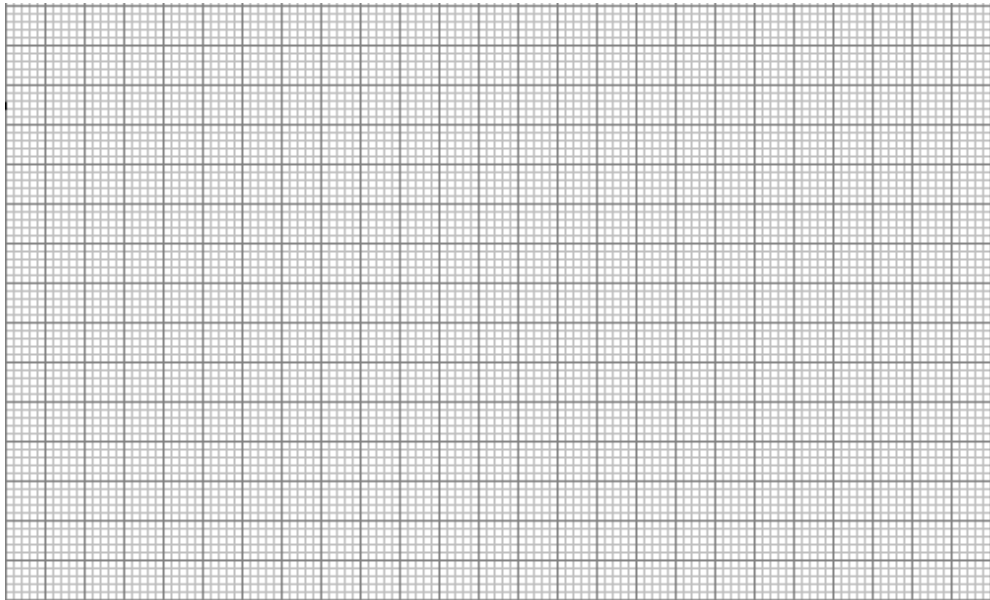
35 students participated in a mathematics competition and their scores are shown below.

Score	40 – 44	45 – 49	50 – 54	55 – 59	60 – 64	65 – 69
No. of students	3	7	12	10	2	1

(a) Fill in the following frequency distribution table according to the above data.   **(2 marks)**

Score	Class boundaries	Class mark	Frequency
40 – 44		42	
		Total:	35

(b) Draw a histogram to present the above data.   **(4 marks)**

(c) The following stem-and-leaf diagram shows all of the orginal data, suggest a possible value for *x* and *y* respectively. **(1 mark)**

The scores of 35 students in a mathematics competition

Boys Leaf (1)	Stem (10)	Girls Leaf (1)
9 9 5 5 1 0 0	4	6 7 8
9 9 9 8 8 7 *x*	5	1 2 3 3 4 4 4
3 2 1 0		5 6 6 7
	6	3 3 *y*

2.   [12-13 Final Exam Q8]

The table below shows the driving test scores of 2 groups of drivers with different ages:

Age 18 – 25	Age 26 – 35
44, 51, 46, 38, 93, 70, 62, 62, 60, 55, 49, 32	75, 52, 50, 61, 61, 55, 89, 77, 69, 65, 45, 50

(a) Construct a back-to-back stem-and-leaf diagram to represent these data.   **(3 marks)**
(b) Based on the distribution of the scores, which group of drivers obtains a higher overall score?   Briefly explain your answer. **(1 mark)**
(c) The drivers whose scores are 70 or above can obtain a driving license. What percentage of drivers can obtain the license? **(2 marks)**
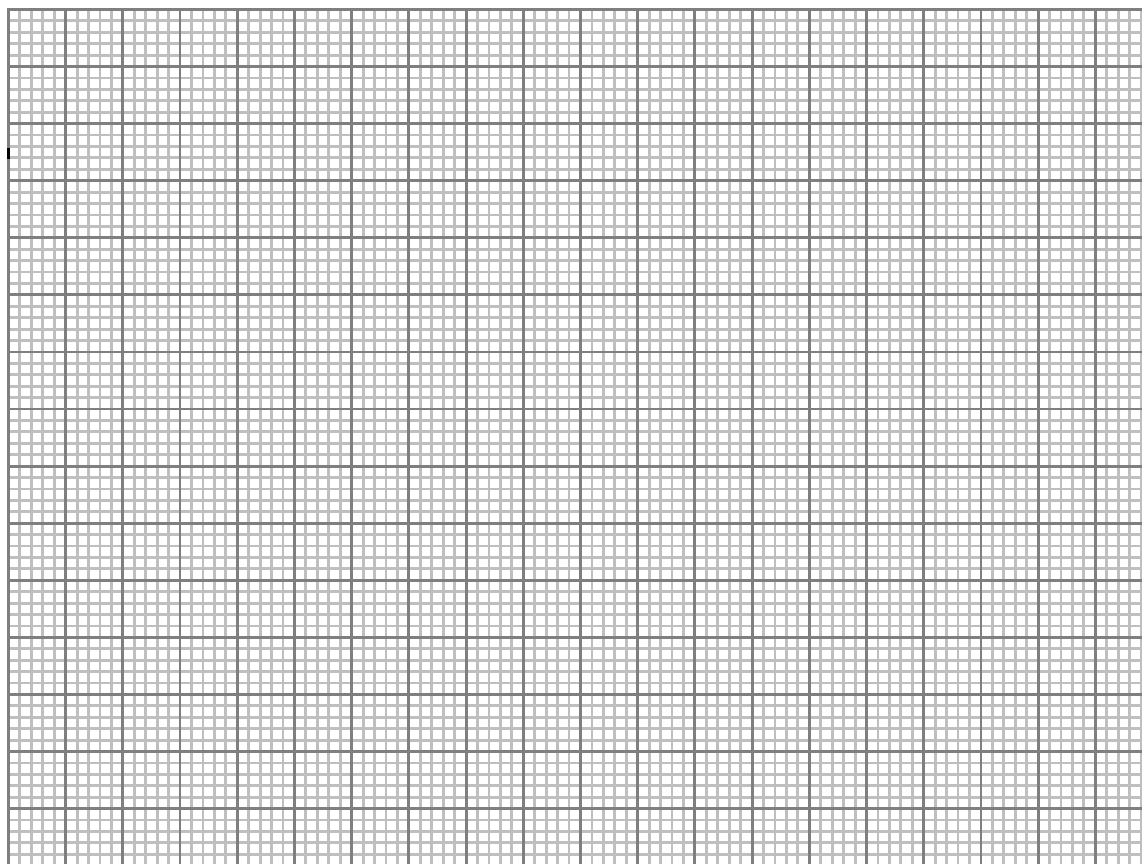
3.   [13-14 Final Exam Q11]

The following frequency distribution table shows the daily wages of 50 employees in *ABC* company.

(a) Complete the table below.   **(2 marks)**

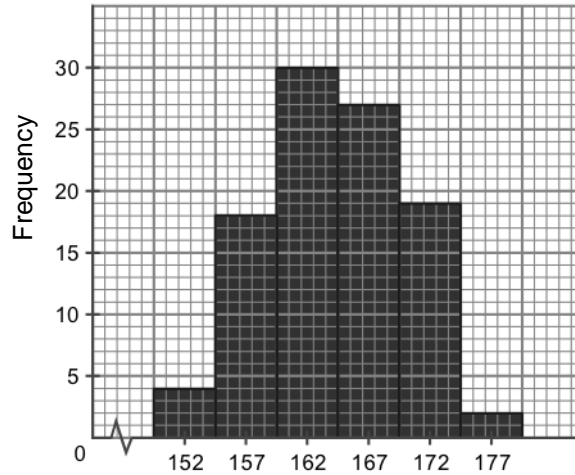| Wage (HKD)	Class boundaries (HKD)	Class mark (HKD)	Frequency
300-399			3
400-499			7
500-599			11
600-699			12
700-799			12
800-899			5

(b) Draw a histogram to present the above data.   **(3 marks)**

4.   **[14-15 Final Exam Q3]**
The following histogram shows the height of a group of 18-year-old students.

Height of a group of 18-year-old students

(a)   **(i)**   According to the above histogram, complete the following frequency distribution table.   **(2 marks)**

Height (cm)	Class boundaries (cm)	Class mark (cm)	Frequency
150 – 154			4
155 – 159			18
160 – 164			30
165 – 169			27
170 – 174			19
175 – 179			2

(ii)   Write down the class width.   **(1 mark)**
(iii)   Chris is a student from the class interval 175cm − 179cm. The height of Chris is y cm. It is known that when y is rounded off to the nearest 0.1, the result is 179.5. Write down a possible value of y.   **(1 mark)**

(b)   Amy is one of the students in the group. The following broken-line graph shows her height from 12 years old to 18 years old. Describe the changes in the height of Amy from 12 years old to 18 years old.   **(2 marks)**

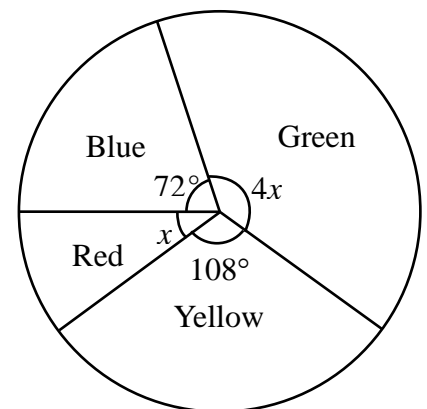Height of Amy from 12 years old to 18 years old
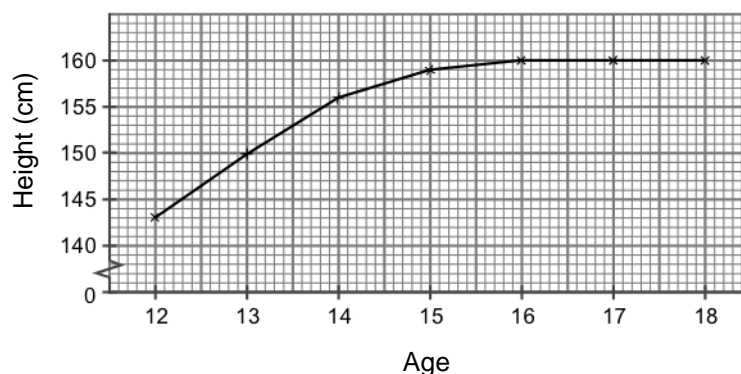
5.   **[14-15 Final Exam Q8]**

The pie chart shows the favourite colour of a group of students. It is known that the number of students choosing 'Green' is 4 times the number of students choosing 'Red'.
(a)   Find x.   **(2 marks)**
(b)   Find the percentage of students choosing 'Green' and 'Yellow'.   **(2 marks)**

Favourite colour of a
group of students

6.   **[15-16 Final Exam, #3]**
      Figure 1 shows the stem-and-leaf diagram of the exam scores of 30 students in a school.

<u>The exam scores of 30 students in a school</u>

Stem (10)	Leaf (1)						
4	3	x	3	4			
5	0	1	2	6	8		
6	2	3	3	5	y	6	9
7	0	2	4	4	5	8	8	9
8	2	4	7	9			
9	0	2					

Figure 1

(a)   If there are 14 students who scored less than 66, write down the values of x and y.

(2 marks)

(b)   **(i)** Complete the following frequency distribution table according to the data in **Figure 1**.

(2 marks)

Score	Class boundaries	Class mark	Frequency
40 - 59			
60 - 79			
80 - 99			
Total			30

(ii)

The above table is used to construct a pie chart of the exam scores of 30 students in the school as shown in **Figure 2**. Find a.   **(2 marks)**
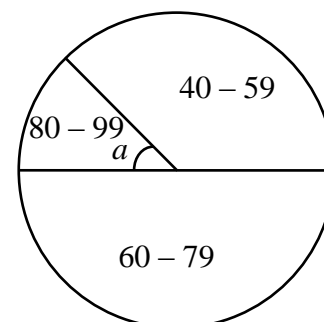

Figure 2

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