

# 1. KELANTAN

## SUKATAN SERAKAN / MEASURES OF DISPERSION - GRAF

Jadual 6 menunjukkan maklumat derma, daripada 80 orang awam untuk sebuah rumah anak yatim.

Table 6 shows the donations, from 80 civilians for an orphanage house.

| Derma (RM)<br>Donation (RM) | Kekerapan Longgokan<br>Cumulative Frequency |
|-----------------------------|---|
| 6 - 10                      | 6   |
| 11 - 15                     | 17  |
| 16 - 20                     | 31  |
| 21 - 25                     | 44  |
| 26 - 30                     | 55  |
| 31 - 35                     | 70  |
| 36 - 40                     | 77  |
| 41 - 45                     | 80  |

Jadual 6/ Table 6

Berdasarkan Jadual 6, .

Based on Table 6.

(a) Lengkapkan jadual pada ruangan jawapan.

Complete the table in the answer space.

[3 markah/ marks]

(b) Untuk ceraihan soalan ini, guna kertas graf yang disediakan pada halaman 26.

For this part of question, use the graph paper provided on page 26.

Seterusnya, dengan menggunakan skala 2cm kepada RM5 pada paksi mengufuk dan 2cm kepada 10 orang awam pada paksi mencancang. Lukis sebuah ogif.

Hence, using a scale 2cm to RM5 on the horizontal axis and 2cm to 10 members of public on the vertical axis. Draw an ogive.

[4 markah/ marks]

(c) Berdasarkan ogif, cari

Based on an ogive, find the

(i) Persentil ke- 40,  $P_{40}$

40th Percentile,  $P_{40}$

[1 markah/ mark]

(ii) Berapakah peralusan orang awam yang telah menderma sebanyak RM 30.00 dan ke bawah?

What is the percentage of the public who have donated RM 30.00 and below?

[2 markah/ marks]

Jawapan/ Answer :

(a)

| Derma (RM)<br>Donation (RM) | Kekerapan<br>Frequency | Sempadan atas<br>Upper Boundary | Kekerapan Longgokan<br>Cumulative Frequency |
|-----------------------------|------------------------|---------------------------------|---|
| 6 - 10                      |                        |                                 | 6   |
| 11 - 15                     |                        |                                 | 17  |
| 16 - 20                     |                        |                                 | 31  |
| 21 - 25                     |                        |                                 | 44  |
| 26 - 30                     |                        |                                 | 55  |
| 31 - 35                     |                        |                                 | 70  |
| 36 - 40                     |                        |                                 | 77  |
| 41 - 45                     |                        |                                 | 80  |

(b) Rujuk Graf

Refer graph

(c) (i)

(ii)

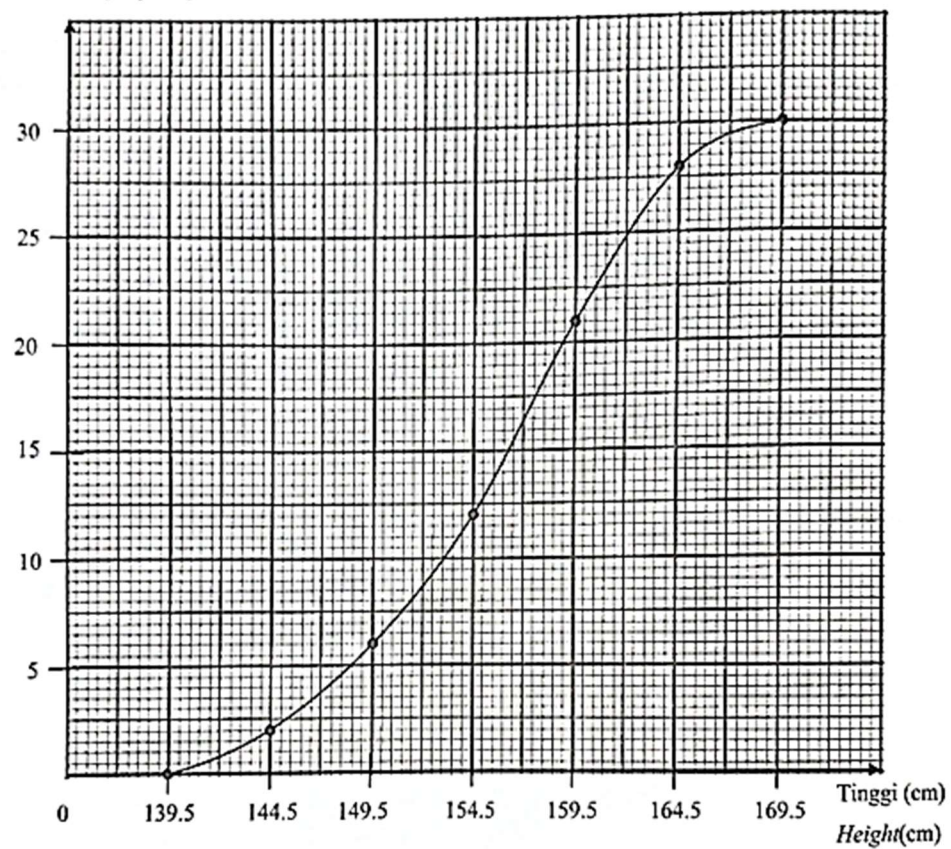
## 2. KEDAH

Rajah 12 menunjukkan ogif yang mewakili tinggi, dalam cm, bagi 30 orang murid tingkatan 5 Kristal.

*Diagram 12 shows an ogive that represent the height, in cm for 30 pupils of form 5 Kristal.*

Kekerapan longgokan

*Cumulative frequency*



Rajah / Diagram 12

(a) Berdasarkan Rajah 12, lengkapkan Jadual 12 di ruangan jawapan.

*Based on the Diagram 12, complete Table 12 in the answer space.*

[3 markah / marks]

(b) Hitung sisihan piawai bagi tinggi, dalam cm, murid tingkatan 5 Kristal dengan diberi nilai min ketinggian murid tersebut adalah 155.5 cm.

*Calculate the standard deviation of the height, in cm, of pupils in form 5 Kristal by given the mean value of the height of the pupils is 155.5 cm.*

[3 markah / marks]

(c) Dengan menggunakan skala 2 cm kepada 5 cm pada paksi mengufuk dan 2 cm kepada seorang murid pada paksi mencancang, lukis histogram bagi maklumat tersebut.

*Using a scale of 2 cm to 5 cm on the horizontal axis and 2 cm to a pupil on the vertical axis, draw a histogram for the information.*

[4 markah / marks]

Jawapan / Answer :

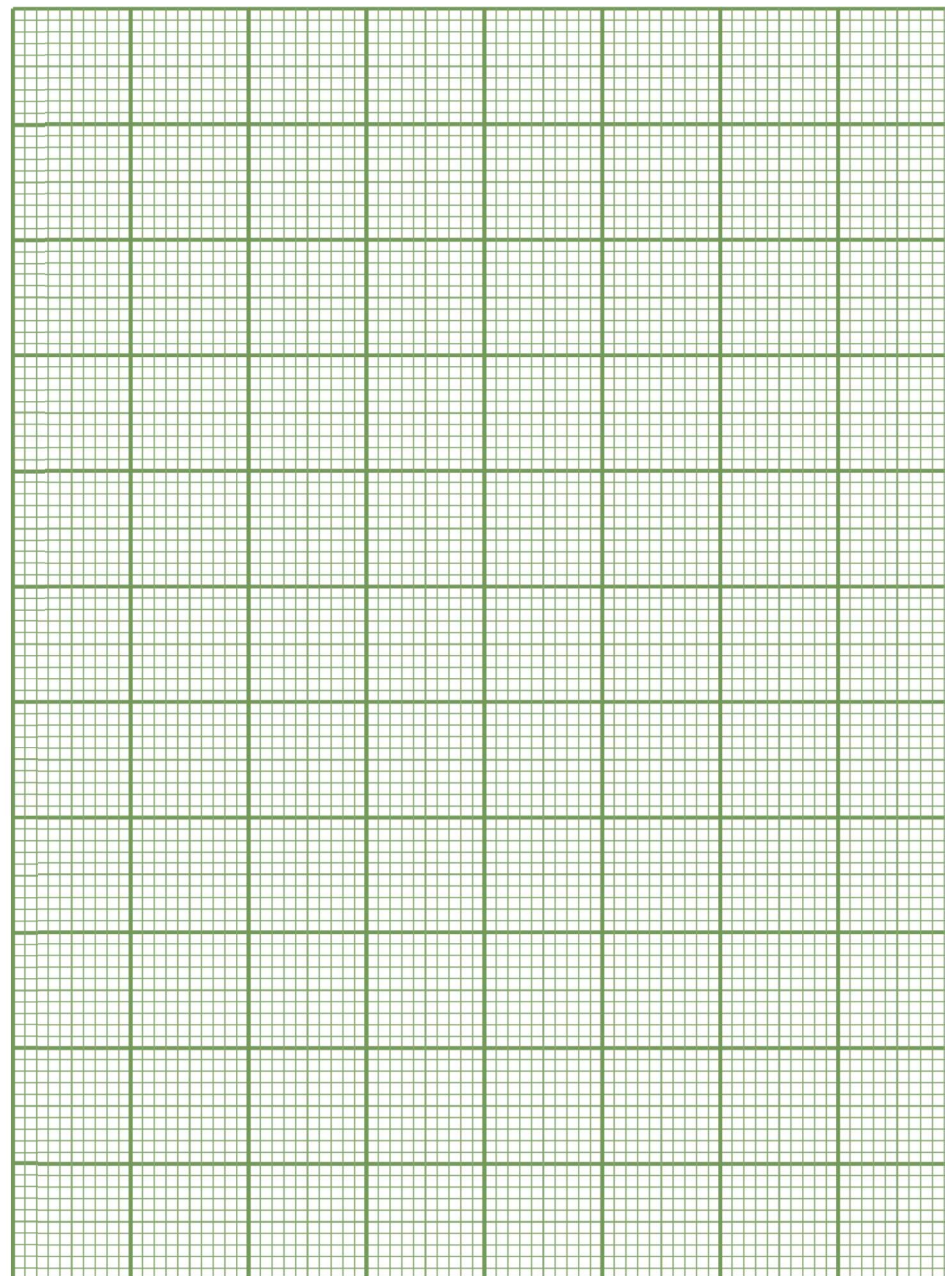
(a)

| Tinggi (cm)<br>Height (cm) | Kekerapan longgokan<br>Cumulative frequency | Kekerapan<br>Frequency |
|----------------------------|---|------------------------|
| 140 – 144                  |   |                        |
| 145 – 149                  |   |                        |
| 150 – 154                  |   |                        |
| 155 – 159                  |   |                        |
| 160 – 164                  |   |                        |
| 165 – 169                  |   |                        |

Jadual / Table 12

(b)

(c)



### 3. YIK

Jadual 3.1 menunjukkan masa, dalam minit, yang diambil oleh 40 orang murid untuk sampai ke sekolah.

Table 3.1 shows the time, in minutes, taken by 40 students to reach school.

| Masa (minit)<br>Time (minutes) | Kekerapan<br>Frequency |
|--------------------------------|------------------------|
| 1 – 5                          | 0                      |
| 6 – 10                         | 3                      |
| 11 – 15                        | 4                      |
| 16 – 20                        | 8                      |
| 21 – 25                        | 17                     |
| 26 – 30                        | 6                      |
| 31 - 35                        | 2                      |

Jadual 3.1  
Table 3.1

- (a) Berdasarkan jadual 3.1, lengkapkan jadual di ruang jawapan.  
Based on table 3.1, complete the table in the answer space.

[2 markah]  
[2 marks]

- (b) Untuk ceraiian soalan ini, gunakan kertas graf yang disediakan.  
For the breakdown of this question, use the graph paper provided.

Menggunakan skala 2 cm kepada 5 minit pada paksi mengufuk dan 2 cm kepada 5 orang murid pada paksi mencancang, lukis satu ogif bagi data tersebut.

Using a scale of 2 cm to 5 minutes on the horizontal axis and 2 cm to 5 pupils on the vertical axis, draw an ogive for the data.

[4 markah]  
[4 marks]

- (c) Berdasarkan ogif di (b), cari  
Based on the ogive in (b), find

- (i) persentil ke-65,  
the 65th percentile
- (ii) bilangan murid yang mengambil masa kurang daripada 28 minit untuk sampai ke sekolah.  
the number of students who take less than 28 minutes to get to school.

[3 markah]  
[3 marks]

Jawapan/Answer :

(a)

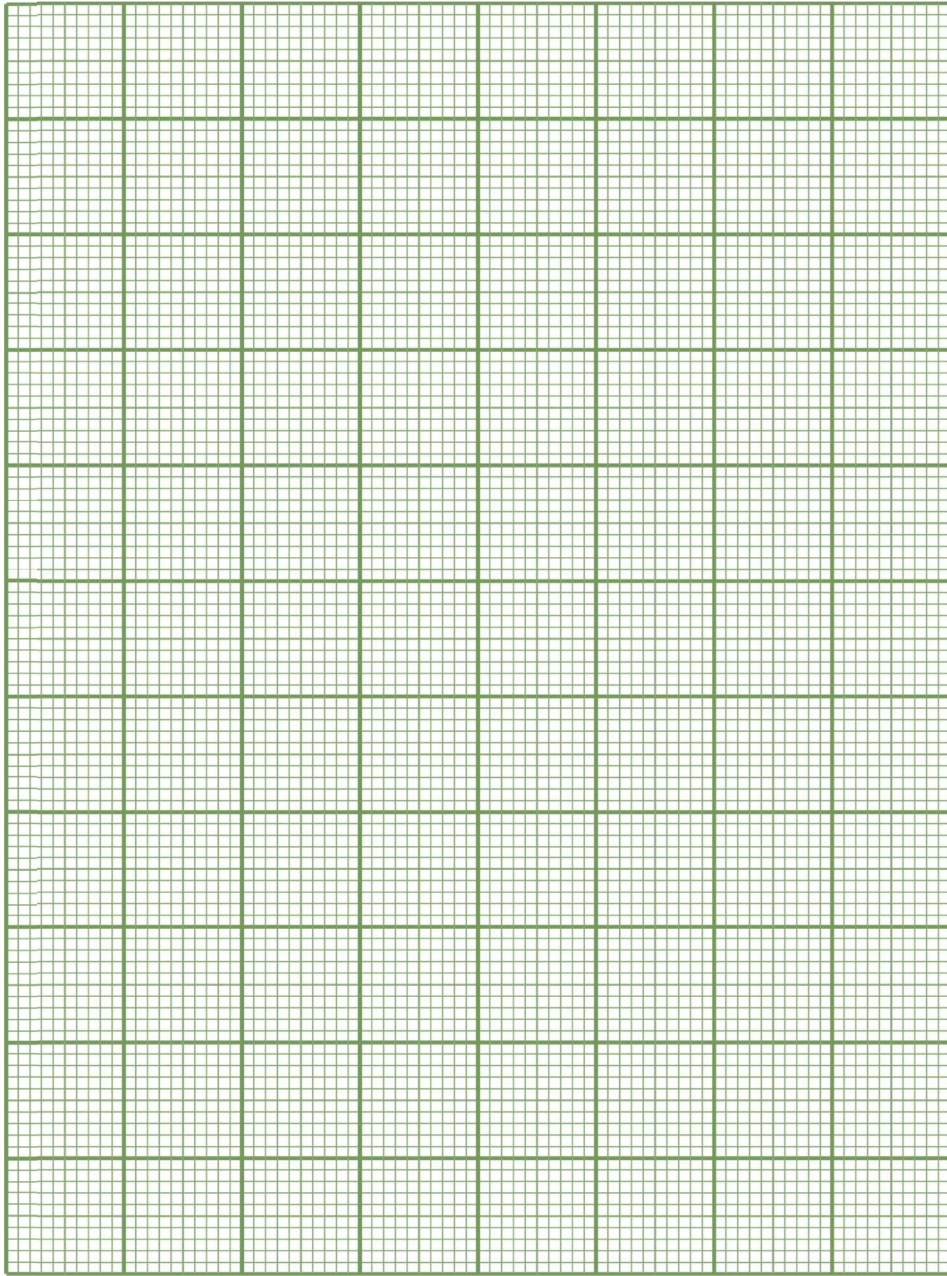
| Masa (minit)<br>Time (minutes) | Kekerapan<br>Frequency | Sempadan Atas<br>Upper boundary | Kekerapan Longgokan<br>Cumulative frequency |
|--------------------------------|------------------------|---------------------------------|---|
| 1 – 5                          | 0                      |                                 |   |
| 6 – 10                         | 3                      |                                 |   |
| 11 – 15                        | 4                      |                                 |   |
| 16 – 20                        | 8                      |                                 |   |
| 21 – 25                        | 17                     |                                 |   |
| 26 – 30                        | 6                      |                                 |   |
| 31 - 35                        | 2                      |                                 |   |

Jadual 3.2  
Table 3.2

- (b) Rujuk graf. // Refer to the graph.

(c) (i)

(ii)



## 4. PAHANG SET 1

Jadual 1.1 menunjukkan ukuran lilitan leher baju Melayu, dalam mm, bagi 60 orang murid lelaki di SMK Setia Wangsa.

Table 1.1 shows the neck circumference, in mm, for 60 male students at SMK Setia Wangsa.

| Ukuran lilitan (mm)<br>Circumference (mm) | Kekerapan<br>Frequency |
|---|------------------------|
| 281 – 300                                 | 2                      |
| 301 – 320                                 | 2                      |
| 321 – 340                                 | 6                      |
| 341 – 360                                 | 15                     |
| 361 – 380                                 | 17                     |
| 381 – 400                                 | 12                     |
| 401 – 420                                 | 5                      |
| 421 – 440                                 | 1                      |

Jadual 1.1 / Table 1.1

- (a) Lengkapkan Jadual 1.2 di ruang jawapan.  
Complete the Table 1.2 in the answer space.

[2 markah/marks]

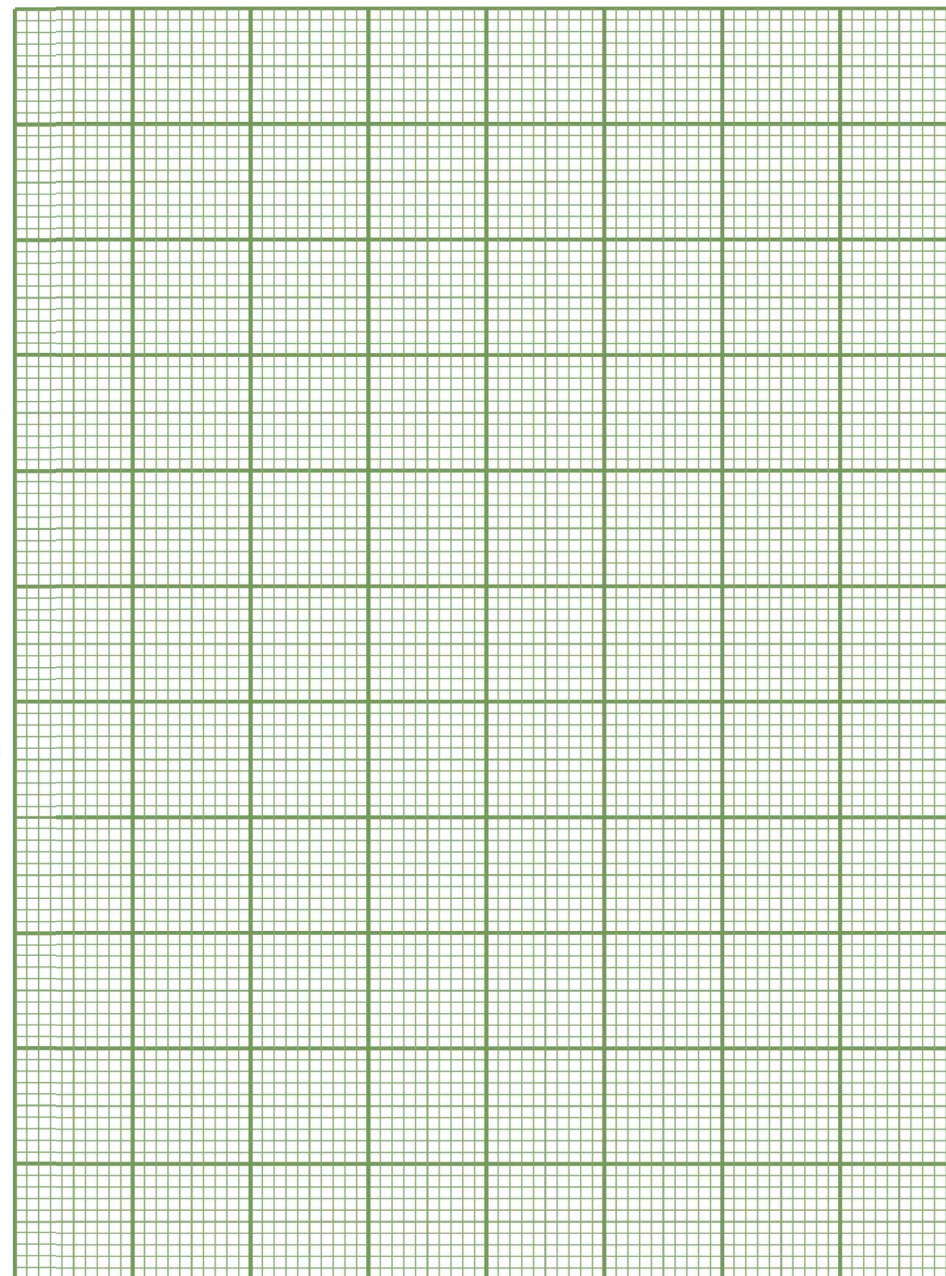
- (b) (i) Nyatakan kelas mod,  
State the class mode,
- (ii) Hitung min bagi data itu.  
Calculate the mean of the data.

[3 markah/marks]

- (c) Untuk ceraihan soalan ini, gunakan kertas graf yang disediakan di halaman 20.  
For this part of the question, use the graph paper provided on page 20.

Menggunakan skala 2 cm kepada 20 mm pada paksi mengufuk dan 2 cm kepada 5 orang murid pada paksi mencancang, lukis ogif bagi data tersebut.  
Using a scale of 2 cm to 20 mm on the horizontal axis and 2 cm to 10 pupils on the vertical axis, draw an ogive of the data.

[4 markah/ marks]



## 5. PAHANG SET 2

Rajah 9 menunjukkan sebuah histogram bagi ukuran panjang, dalam cm 35 ekor ikan di sebuah gerai.

Diagram 9 shows a histogram of the lengths, in cm, of 35 fish in a stall.

- (a) Berdasarkan histogram itu, lengkapkan Jadual 3 di ruang jawapan.

Based on the histogram, complete Table 3 in the answer space.

[3 markah / marks]

- (b) Untuk ceraihan soalan ini, gunakan kerats graf yang disediakan dihalaman 25.

For this part question, use the graph paper provided on page 25

Menggunakan 2 cm kepada 5 unit pada paksi mengufuk dan 2 cm kepada 1 cm pada paksi mencancang, Lukis satu polygon kekerapan bagi data tersebut.

Using a scale of 2 cm to 5 units on the horizontal axis and 2 cm to 1 cm on the vertical axis, draw a frequency polygon for the data.

[4 markah / marks]

- (c) Berdasarkan jawapan di (a) dan (b), hitung min dan julat bagi data itu.

Based on the answers in (a) and (b), calculate the mean and range for the data.

[3 markah / marks]

Jawapan / Answer

(a)

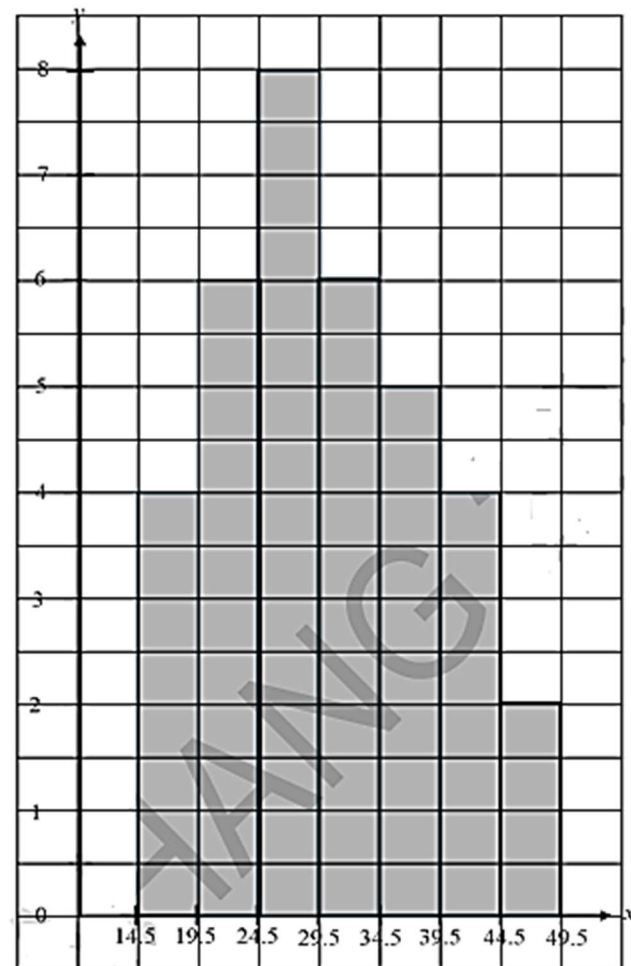
| Panjang (cm)<br>Length (cm) | Kekerapan<br>Frequency | Titik Tengah<br>Midpoint |
|-----------------------------|------------------------|--------------------------|
| 10 – 14                     |                        |                          |
| 15 – 19                     |                        |                          |
| 20 – 24                     |                        |                          |
| 25 – 29                     |                        |                          |
| 30 – 34                     |                        |                          |
| 35 – 39                     |                        |                          |
| 40 – 44                     |                        |                          |

Jadual 3 / Table 3

- (b) Rujuk graf di halaman 25.

Refer graph on page 25.

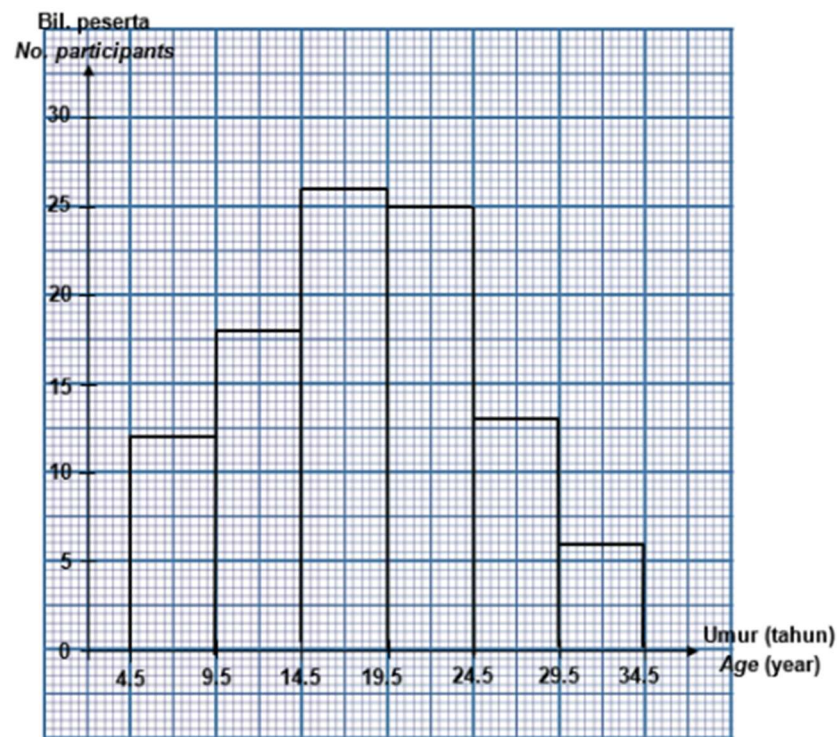
(c)



Rajah 9 / Diagram 9

## 6. MELAKA

- (a) Rajah 6 ialah sebuah histogram yang menunjukkan umur, dalam tahun, peserta pengakap pada perkhemahan peringkat daerah Alor Gajah.  
 Diagram 6 is a histogram shows the age, in years, of scout participants at the Alor Gajah district level camp.



Rajah 6 / Diagram 6

- (i) Hitung bilangan peserta yang hadir.  
 Determine the number of participants present. [2 markah / marks]
- (ii) Seterusnya, lengkapkan Jadual 2 di ruang jawapan.  
 Hence, complete Table 2 in the answer space. [3 markah / marks]

- (b) Berdasarkan Jadual 3, lukis satu ogif dengan menggunakan skala 2 cm kepada 5 tahun pada paksi mengufuk dan 2 cm kepada 10 orang pengakap pada paksi mencancang.  
Based on Table 3, draw an ogive using a scale of 2 cm to 5 years on the horizontal axis and 2 cm to 10 scouts on the vertical axis.

[4 markah / marks]

- (c) Daripada ogif di 14(b), cari kuartil ketiga.  
From the ogive in 14(b), find the third quartile.

[1 markah / mark]

Jawapan / Answer :

(a) (i)

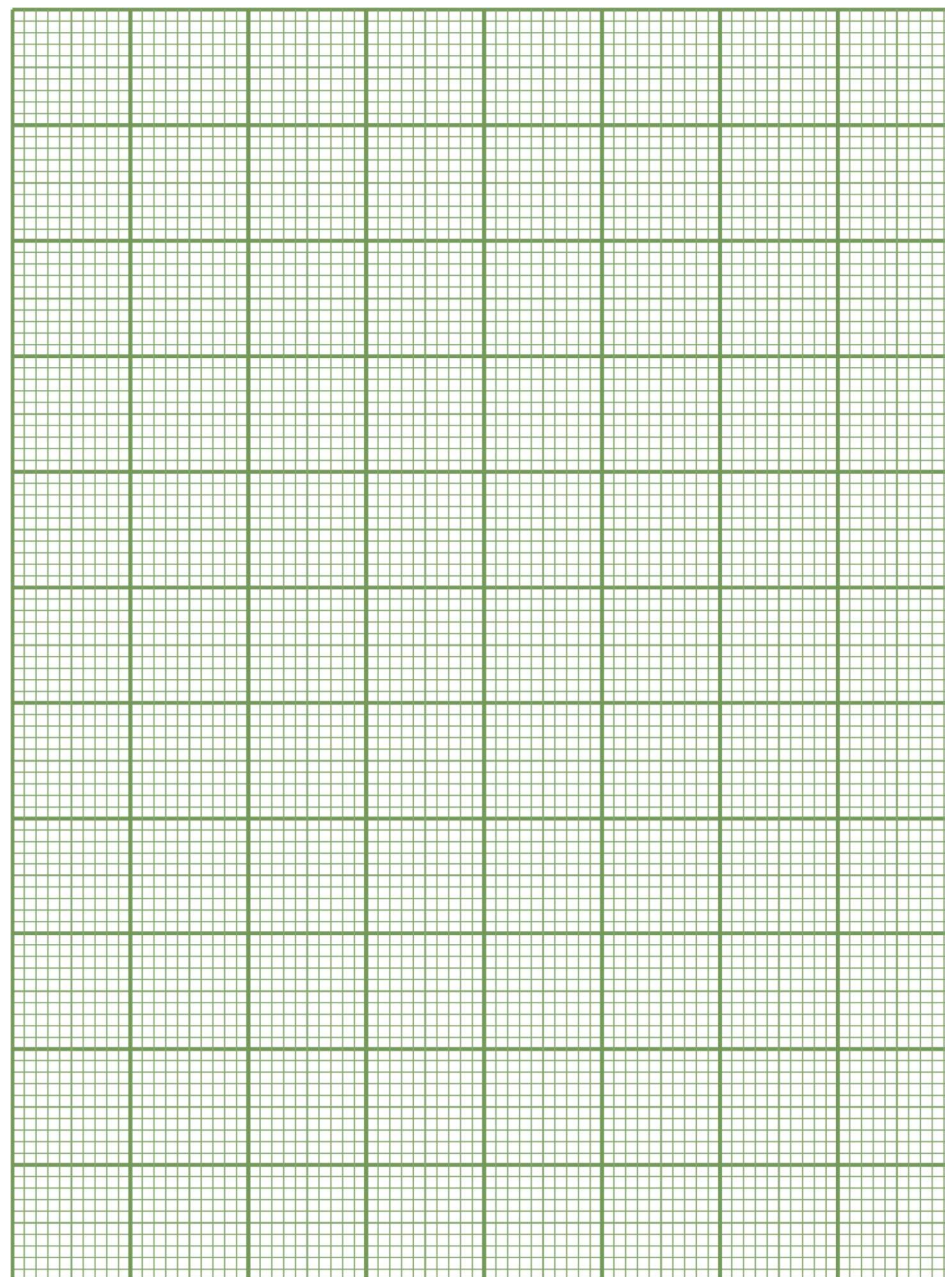
(ii)

| Umur (tahun)<br>Ages (years) | Sempadan atas<br>Upper boundary | Kekerapan longgokan<br>Cumulative frequency |
|------------------------------|---------------------------------|---|
| 0 - 4                        |                                 |   |
| 5 - 9                        |                                 |   |
| 10 - 14                      |                                 |   |
| 15 - 19                      |                                 |   |
| 20 - 24                      |                                 |   |
| 25 - 29                      |                                 |   |
| 30 - 34                      |                                 |   |

Jadual 3 / Table 3

- (b) Rujuk graf / Refer graph.

(c)



## 7. PERAK

Jadual 1 menunjukkan taburan kekerapan elaun bagi 40 orang pelatih di sebuah syarikat.

*Table 1 shows the frequency distribution of the allowances of 40 trainees in a company.*

| Elaun (RM)<br>Allowance (RM) | 1 – 10 | 11 – 20 | 21 – 30 | 31 – 40 | 41 – 50 | 51 – 60 | 61 – 70 |
|------------------------------|--------|---------|---------|---------|---------|---------|---------|
| Kekerapan<br>Frequency       | 1      | 2       | 5       | 11      | 11      | 7       | 3       |

Jadual 1 / Table 1

(a) Berdasarkan Jadual 1, lengkapkan jadual di ruang jawapan.

*Based on Table 1, complete the table in the answer space.*

[2 markah / 2 marks]

(b) Hitung min anggaran elaun bagi seorang pelatih.

*Calculate the estimated mean of the allowances of a trainee.*

[3 markah / 3 marks]

(c) Untuk ceraian soalan ini, gunakan kertas graf yang disediakan di ruang jawapan. Anda boleh menggunakan pembaris fleksibel.

*For this part of question, use the graph paper provided in the answer space. You may use a flexible ruler.*

Dengan menggunakan skala 2 cm kepada RM10 pada paksi mengufuk dan 2 cm kepada 10 pelatih pada paksi mencancang, lukis satu ogif bagi data tersebut.

*By using a scale of 2 cm to RM10 on the horizontal axis and 2 cm to 10 trainees on the vertical axis, draw an ogive for the data.*

[4 markah / 4 marks]

(d) Dengan menggunakan ogif di (c), cari peratus bilangan pekerja yang mendapat elaun melebihi RM40.

*By using the ogive in (c), find the percentage of the number of workers who get allowances more than RM40.*

[1 markah / 1 mark]

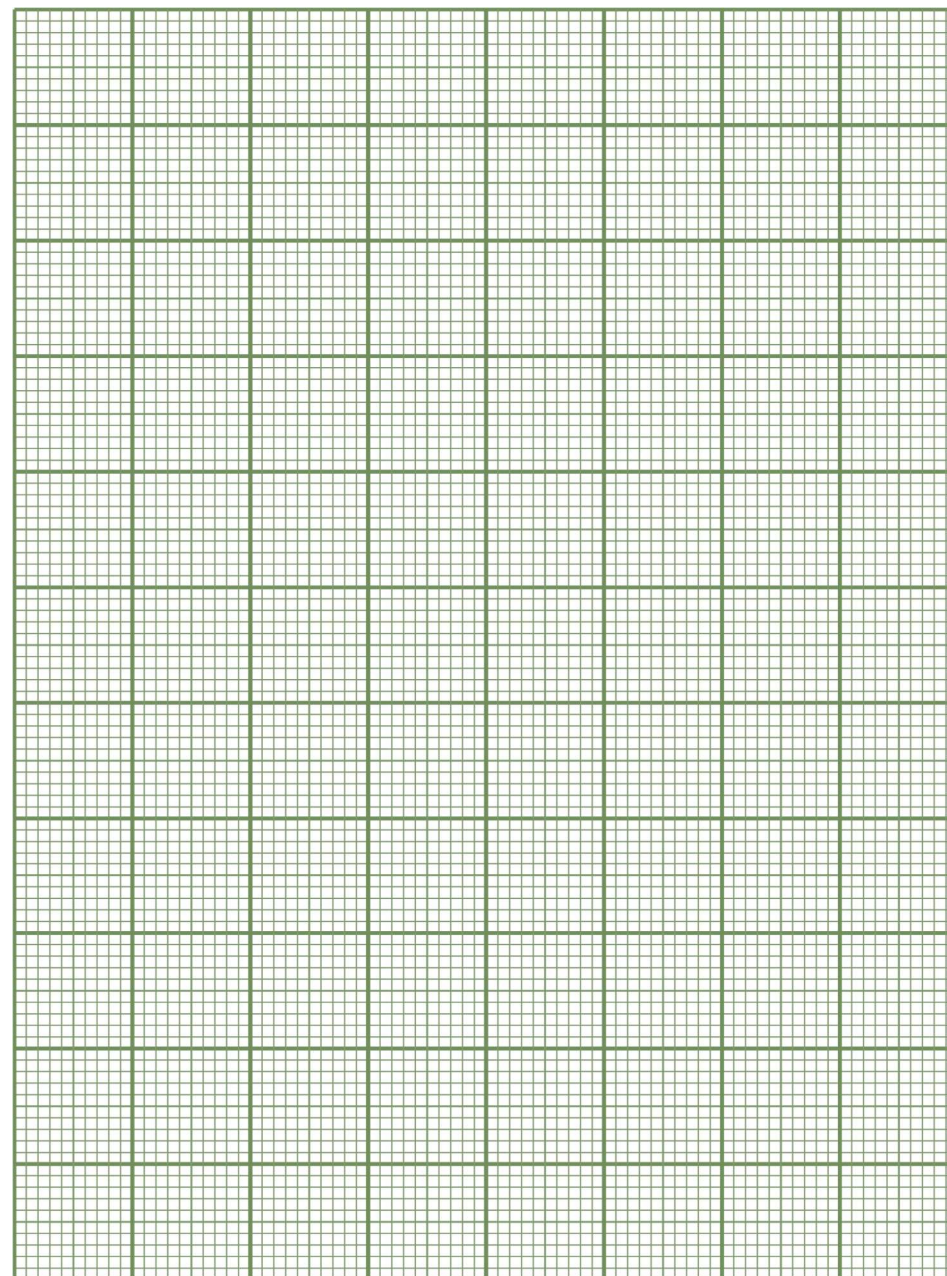
Jawapan / Answer:

(a)

| Elaun (RM)<br>Allowance (RM) | Kekerapan<br>Frequency | Sempadan atas<br>Upper boundary | Kekerapan longgokan<br>Cumulative frequency |
|------------------------------|------------------------|---------------------------------|---|
| 0                            | 0                      | 0.5                             | 0   |
| 1 – 10                       | 1                      |                                 |   |
| 11 – 20                      | 2                      |                                 |   |
| 21 – 30                      | 5                      |                                 |   |
| 31 – 40                      | 11                     |                                 |   |
| 41 – 50                      | 11                     |                                 |   |
| 51 – 60                      | 7                      |                                 |   |
| 61 – 70                      | 3                      |                                 |   |

(b)

(c)



(d)

## 8. SABK

Jadual 2 menunjukkan taburan kekerapan jisim, dalam kg, bagi 100 bungkusan yang dihantar oleh seorang posmen.

Table 2 shows the frequency distribution of mass, in kg, of 100 parcels delivered by a postman.

| Jisim (kg)<br>Mass (kg) | 3 – 5 | 6 – 8 | 9 – 11 | 12 – 14 | 15 – 17 | 18 – 20 |
|-------------------------|-------|-------|--------|---------|---------|---------|
| Kekerapan<br>Frequency  | 12    | 18    | 34     | 20      | 10      | 6       |

Jadual 2

Table 2

- (a) Lengkapkan Jadual 3 di ruangan jawapan. [2 markah]

Complete Table 3 in the answer space. [2 marks]

- (b) Seterusnya, menggunakan skala 2 cm kepada 3 kg pada paksi mengufuk dan 2 cm kepada 20 bungkusan, lukis satu ogif bagi data tersebut

Hence, using a scale of 2 cm to 3 kg on the horizontal axis and 2 cm to 20 packages on vertical axis, draw an ogive for the data. [3 markah]

[3 marks]

- (c) Daripada ogif yang dilukis, tentukan

From the ogive drawn, determine

- (i) julat antara kuartil.

the interquartile range.

- (ii) persentil ke-60 bagi jisim tersebut.

[4 markah]

the 60<sup>th</sup> percentile for the mass.

[4 marks]

Jawapan / Answer :

(c) (i)

(ii)

Jawapan / Answer:

(a)

| Jisim (kg)<br>Mass (kg) | Kekerapan<br>Frequency | Kekerapan Longgokan<br>Cumulative Frequency | Sempadan Atas<br>Upper Boundary |
|-------------------------|------------------------|---|---------------------------------|
| 3 – 5                   | 12                     |   |                                 |
| 6 – 8                   | 18                     |   |                                 |
| 9 – 11                  | 34                     |   |                                 |
| 12 – 14                 | 20                     |   |                                 |
| 15 – 17                 | 10                     |   |                                 |
| 18 – 20                 | 6                      |   |                                 |



## 9. TERENGGANU MPP3

Jadual 4(b) menunjukkan kekerapan markah yang diperoleh ahli Kumpulan B dalam pertandingan kuiz yang disertai mereka.

Table 4(b) shows the frequency of the scores obtained by Group B members in the quiz competition.

| Markah / Marks | Kekerapan / frequency |
|----------------|-----------------------|
| 30 – 34        | 4                     |
| 35 – 39        | 5                     |
| 40 – 44        | $x$                   |
| 45 – 49        | 8                     |
| 50 – 54        | 7                     |

Jadual 4(b)  
Table 4(b)

- (i) Hitung nilai  $x$ .  
Calculate the value of  $x$ .

[1 markah]  
[1 mark]

- (ii) Untuk ceriaan soalan ini, gunakan kertas graf yang disediakan pada halaman 35.

For this part of the question, use the graph paper provided on page 35.

Dengan menggunakan skala 2 cm kepada 5 markah pada paksi mengufuk dan 2 cm kepada 2 murid pada paksi mencancang, lukis satu histogram bagi data tersebut.

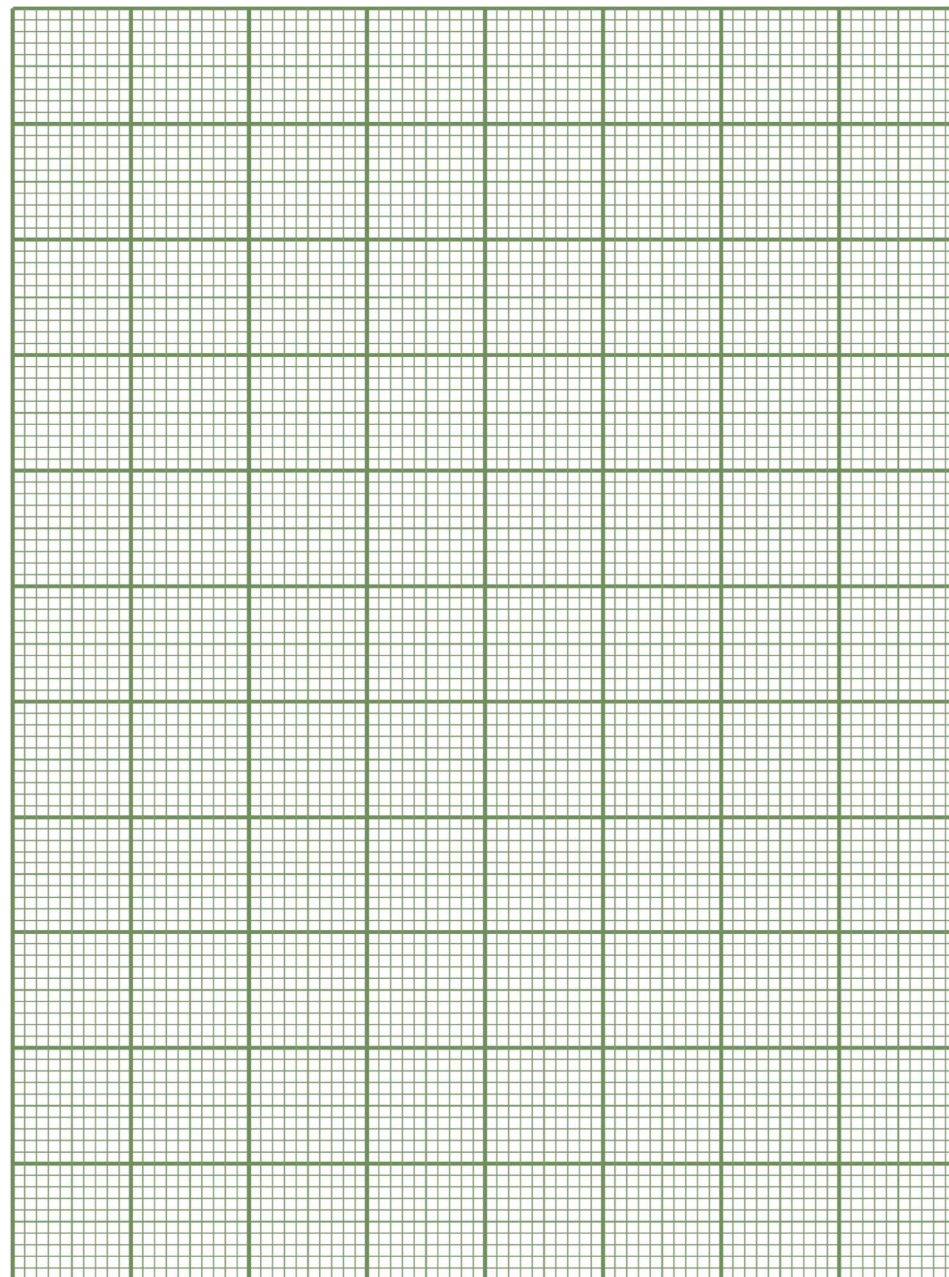
Using a scale 2 cm for 5 marks on the horizontal axis and 2 cm for 2 pupils on the vertical axis, draw a histogram for the data.

[4 markah]  
[4 marks]

Jawapan / Answer :

(i)

(ii)



# 10. MUAR JOHOR

Jadual 14(a) menunjukkan jadual kekerapan longgokan bagi jisim dalam kg, murid – murid di Kelas 5 Bestari.

Table 14(a) shows the table of cumulative frequency for the mass in kg, of students in Class 5 Bestari.

|   |         |         |         |         |         |         |         |
|---|---------|---------|---------|---------|---------|---------|---------|
| Jisim (kg)<br>Mass (kg)                     | 40 – 44 | 45 – 49 | 50 – 54 | 55 – 59 | 60 – 64 | 65 – 69 | 70 – 74 |
| Kekerapan Longgokan<br>Cumulative Frequency | 3       | 8       | 14      | 24      | 29      | 33      | 35      |

Jadual 14(a)  
Table 14(a)

(a) Lengkapkan kekerapan dalam jadual yang disediakan.  
Complete the frequency in the table provided.

[2 markah / marks]

(b) Nyatakan kelas mod bagi data tersebut.  
Determine the mode of class intervals

[2 markah / marks]

(c) (i) Dengan menggunakan skala 2 cm kepada 5 kg pada paksi mengufuk dan 2 cm kepada 1 orang murid pada paksi mencancang, lukis histogram daripada data yang diberi.  
By using a scale of 2 cm to 5 kg on the horizontal axis and 2 cm to 1 student on the vertical axis, draw a histogram for the data.

[4 markah / marks]

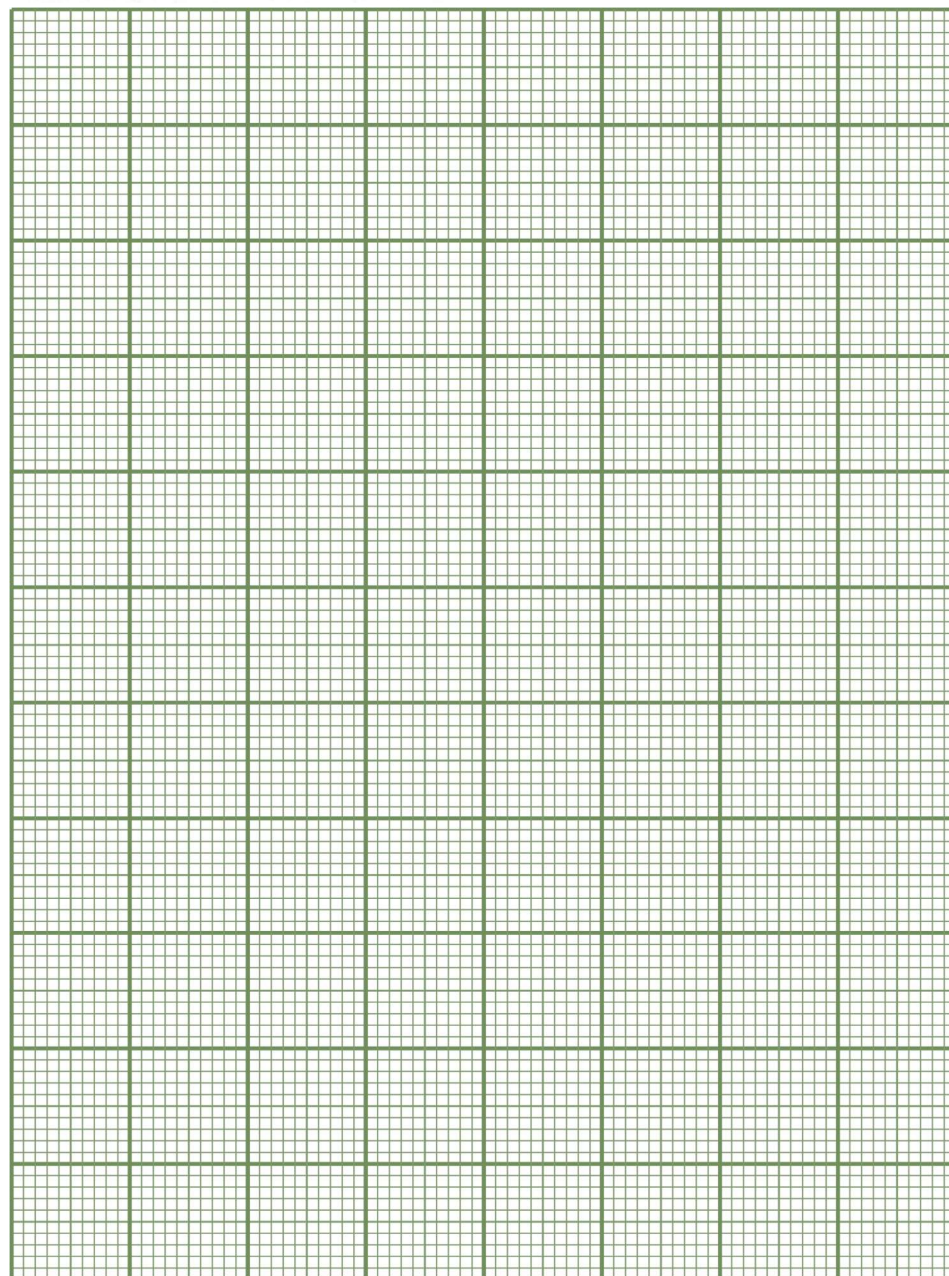
(ii) Berdasarkan graf yang dilukis dalam c(i), nyatakan bentuk taburan histogram.  
Based on the graph drawn in c(i), state the shape of the histogram distribution?

[1 markah / mark]

(b) .....

(c) (i) Rujuk pada graf.  
Refer to the graph.

(ii) .....



Jawapan/ Answer:

(a)

| Jisim (kg)<br>Mass (kg) | Kekerapan<br>Frequency |
|-------------------------|------------------------|
| 40 – 44                 |                        |
| 45 – 49                 |                        |
| 50 – 54                 |                        |
| 55 – 59                 |                        |
| 60 – 64                 |                        |
| 65 – 69                 |                        |
| 70 – 74                 |                        |

## 11. SPMU

Jadual 3.1 menunjukkan jisim, dalam kg, bagi 40 orang murid di dalam kelas 5 Arif.

Table 3.1 shows mass, in kg, of 40 students in class 5 Arif.

| Jisim (kg)<br>Mass (kg) | Kekerapan<br>Frequency |
|-------------------------|------------------------|
| 30 – 34                 | 1                      |
| 35 – 39                 | 8                      |
| 40 – 44                 | 12                     |
| 45 – 49                 | 9                      |
| 50 – 54                 | 6                      |
| 55 – 59                 | 4                      |

Jadual 3.1  
Table 3.1

(a) Lengkapkan Jadual 3.2 pada ruang jawapan. [2 markah]

Complete Table 3.2 in the answer space. [2 marks]

(b) Anda mesti menggunakan pensel 2B atau BB untuk soalan ini.

You must use 2B or BB pencil for this question.

Menggunakan skala 2 cm kepada 5 kg pada paksi mengufuk dan 2 cm kepada 5 orang murid pada paksi mencancang, lukis satu ogif berdasarkan maklumat dalam Jadual 3.2. [4 markah]

Using the scale of 2 cm to 5 kg on the horizontal axis and 2 cm to 5 students on the vertical axis, draw an ogive based on the information in Table 3.2. [4 marks]

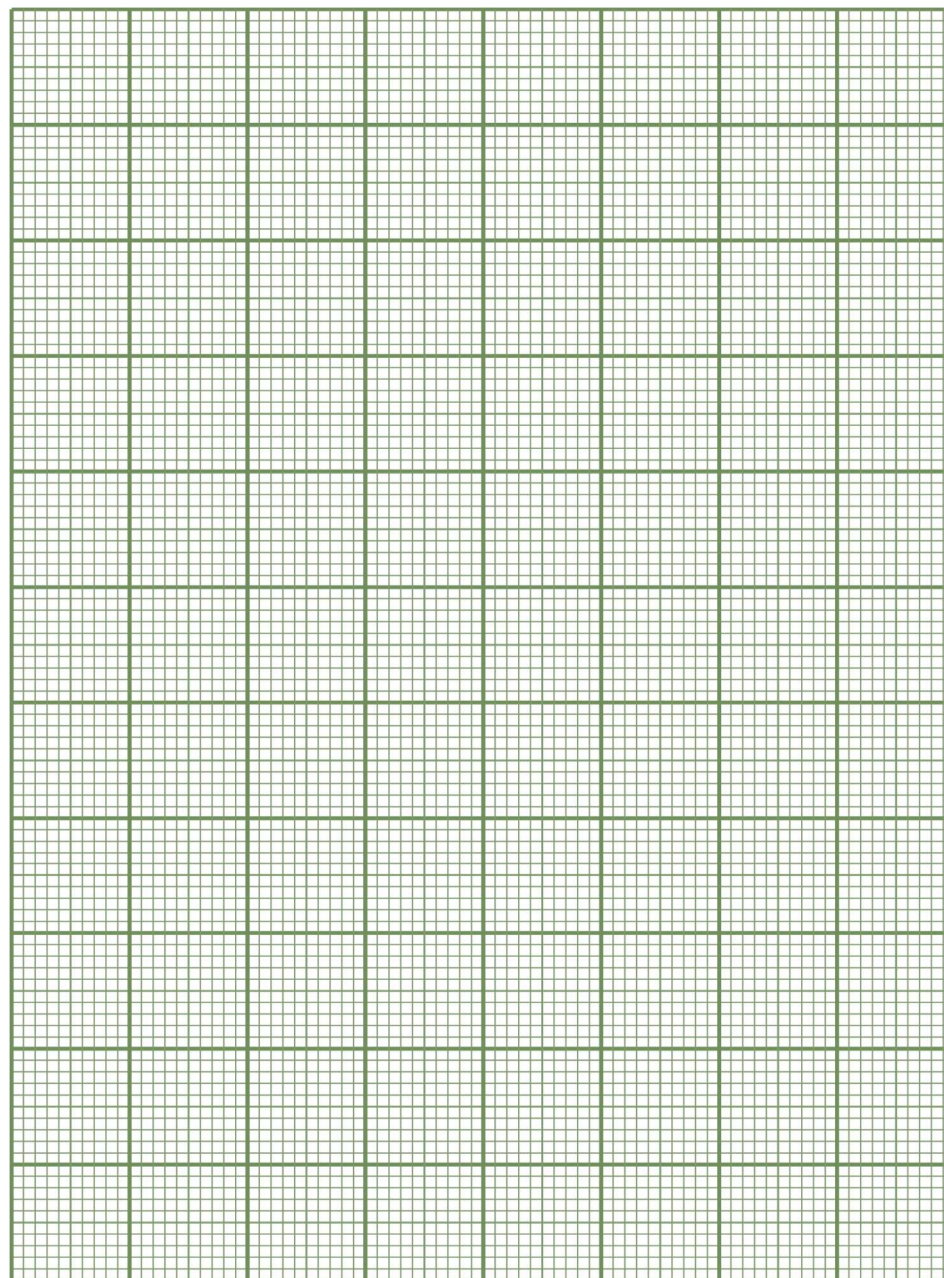
Jawapan / Answer:

(a)

| Sempadan Atas (kg)<br>Upper Boundary (kg) | Kekerapan Longgokan<br>Cumulative Frequency |
|---|---|
| 29.5                                      | 0   |
| 34.5                                      |   |
| 39.5                                      |   |
| 44.5                                      |   |
| 49.5                                      |   |
| 54.5                                      |   |
| 59.5                                      |   |

Jadual 3.2  
Table 3.2

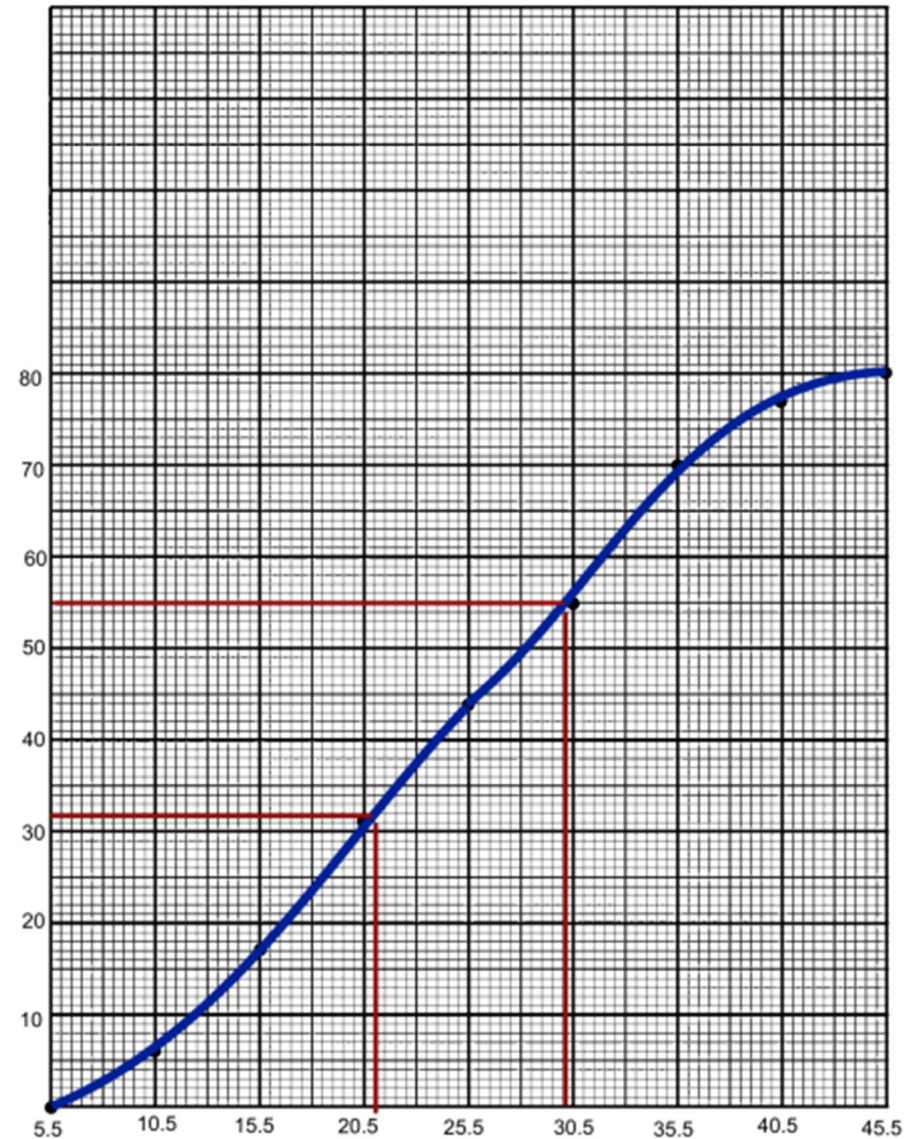
(b)



**SKEMA JAWAPAN :**

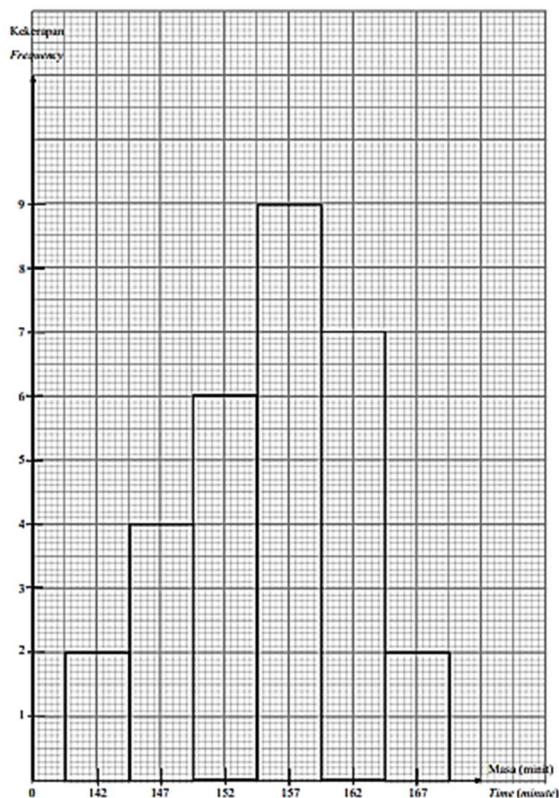
## 1. KELANTAN

| (a)                               | <table border="1"> <thead> <tr> <th>Derma<br/>(RM)<br/>Donation<br/>(RM)</th> <th>Kekerapan<br/>Frequency</th> <th>Sempadan<br/>atas<br/>Upper<br/>Boundary</th> <th>Kekerapan<br/>Longgokan<br/>Cumulative<br/>Frequency</th> </tr> </thead> <tbody> <tr> <td>6 - 10</td> <td>6</td> <td>10.5</td> <td>6</td> </tr> <tr> <td>11 - 15</td> <td>11</td> <td>15.5</td> <td>17</td> </tr> <tr> <td>16 - 20</td> <td>14</td> <td>20.5</td> <td>31</td> </tr> <tr> <td>21 - 25</td> <td>13</td> <td>25.5</td> <td>44</td> </tr> <tr> <td>26 - 30</td> <td>11</td> <td>30.5</td> <td>55</td> </tr> <tr> <td>31 - 35</td> <td>15</td> <td>35.5</td> <td>70</td> </tr> <tr> <td>36 - 40</td> <td>7</td> <td>40.5</td> <td>77</td> </tr> <tr> <td>41 - 45</td> <td>3</td> <td>45.5</td> <td>80</td> </tr> </tbody> </table> <p>Semua kekerapan betul 2m<br/>Semua sempadan atas betul 1m</p> | Derma<br>(RM)<br>Donation<br>(RM)     | Kekerapan<br>Frequency                            | Sempadan<br>atas<br>Upper<br>Boundary | Kekerapan<br>Longgokan<br>Cumulative<br>Frequency | 6 - 10 | 6 | 10.5 | 6 | 11 - 15 | 11 | 15.5 | 17 | 16 - 20 | 14 | 20.5 | 31 | 21 - 25 | 13 | 25.5 | 44 | 26 - 30 | 11 | 30.5 | 55 | 31 - 35 | 15 | 35.5 | 70 | 36 - 40 | 7 | 40.5 | 77 | 41 - 45 | 3 | 45.5 | 80 | 3 | 9 |
|-----------------------------------|---|---------------------------------------|---|---------------------------------------|---|--------|---|------|---|---------|----|------|----|---------|----|------|----|---------|----|------|----|---------|----|------|----|---------|----|------|----|---------|---|------|----|---------|---|------|----|---|---|
| Derma<br>(RM)<br>Donation<br>(RM) | Kekerapan<br>Frequency  | Sempadan<br>atas<br>Upper<br>Boundary | Kekerapan<br>Longgokan<br>Cumulative<br>Frequency |                                       |   |        |   |      |   |         |    |      |    |         |    |      |    |         |    |      |    |         |    |      |    |         |    |      |    |         |   |      |    |         |   |      |    |   |   |
| 6 - 10                            | 6   | 10.5                                  | 6   |                                       |   |        |   |      |   |         |    |      |    |         |    |      |    |         |    |      |    |         |    |      |    |         |    |      |    |         |   |      |    |         |   |      |    |   |   |
| 11 - 15                           | 11  | 15.5                                  | 17  |                                       |   |        |   |      |   |         |    |      |    |         |    |      |    |         |    |      |    |         |    |      |    |         |    |      |    |         |   |      |    |         |   |      |    |   |   |
| 16 - 20                           | 14  | 20.5                                  | 31  |                                       |   |        |   |      |   |         |    |      |    |         |    |      |    |         |    |      |    |         |    |      |    |         |    |      |    |         |   |      |    |         |   |      |    |   |   |
| 21 - 25                           | 13  | 25.5                                  | 44  |                                       |   |        |   |      |   |         |    |      |    |         |    |      |    |         |    |      |    |         |    |      |    |         |    |      |    |         |   |      |    |         |   |      |    |   |   |
| 26 - 30                           | 11  | 30.5                                  | 55  |                                       |   |        |   |      |   |         |    |      |    |         |    |      |    |         |    |      |    |         |    |      |    |         |    |      |    |         |   |      |    |         |   |      |    |   |   |
| 31 - 35                           | 15  | 35.5                                  | 70  |                                       |   |        |   |      |   |         |    |      |    |         |    |      |    |         |    |      |    |         |    |      |    |         |    |      |    |         |   |      |    |         |   |      |    |   |   |
| 36 - 40                           | 7   | 40.5                                  | 77  |                                       |   |        |   |      |   |         |    |      |    |         |    |      |    |         |    |      |    |         |    |      |    |         |    |      |    |         |   |      |    |         |   |      |    |   |   |
| 41 - 45                           | 3   | 45.5                                  | 80  |                                       |   |        |   |      |   |         |    |      |    |         |    |      |    |         |    |      |    |         |    |      |    |         |    |      |    |         |   |      |    |         |   |      |    |   |   |
| (b)                               | Paksi dilukis dengan betul dan skala seragam  | 1                                     |   |                                       |   |        |   |      |   |         |    |      |    |         |    |      |    |         |    |      |    |         |    |      |    |         |    |      |    |         |   |      |    |         |   |      |    |   |   |
|                                   | Semua titik diplot dengan betul<br>Nota:<br>6 atau 7 titik diplot dengan betul beri 1 markah  | 2                                     |   |                                       |   |        |   |      |   |         |    |      |    |         |    |      |    |         |    |      |    |         |    |      |    |         |    |      |    |         |   |      |    |         |   |      |    |   |   |
|                                   | Graf licin dan melalui semua titik.<br>Graf rujuk m/s 8   | 1                                     |   |                                       |   |        |   |      |   |         |    |      |    |         |    |      |    |         |    |      |    |         |    |      |    |         |    |      |    |         |   |      |    |         |   |      |    |   |   |
| (c)(i)                            | $20 \leq P_{40} \leq 22$  | 1                                     |   |                                       |   |        |   |      |   |         |    |      |    |         |    |      |    |         |    |      |    |         |    |      |    |         |    |      |    |         |   |      |    |         |   |      |    |   |   |
| (ii)                              | $53 \leq y \leq 56$ $54/80 \times 100 = 67.5\%$   | 2                                     |   |                                       |   |        |   |      |   |         |    |      |    |         |    |      |    |         |    |      |    |         |    |      |    |         |    |      |    |         |   |      |    |         |   |      |    |   |   |



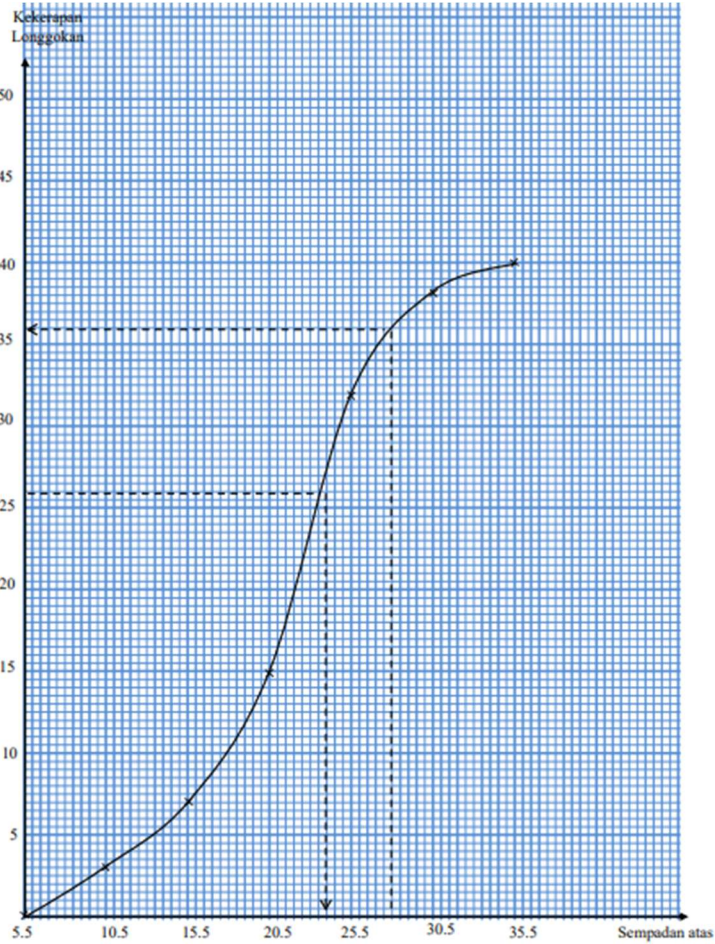
2. KEDAH

| (a) | Masa (minit)<br><i>Time (minutes)</i>  | Kekerapan Longgokan<br><i>Cumulative Frequency</i> | Kekerapan<br><i>Frequency</i> |    |
|-----|--|--|-------------------------------|----|
|     | 140 – 144  | 2  | 2                             |    |
|     | 145 – 149  | 6  | 4                             |    |
|     | 150 – 154  | 12   | 6                             |    |
|     | 155 – 159  | 21   | 9                             |    |
|     | 160 – 164  | 28   | 7                             |    |
|     | 165 – 169  | 30   | 2                             |    |
|     | 6 kekerapan longgokan ditulis dengan betul   |  |                               | 1m |
|     | 6 kekerapan ditulis dengan betul   |  |                               | 2m |
| (b) | $\sqrt{\frac{*2(142)^2 + *4(147)^2 + *6(152)^2 + *9(157)^2 + *7(162)^2 + *2(167)^2}{2 + 4 + 6 + 9 + 7 + 2}} - 155.5^2$ |  |                               | 2m |



3. YIK

| (a)    | Masa (minit)  | Kekerapan | Sempadan Atas | Kekerapan Longgokan |          |
|--------|---|-----------|---------------|---------------------|----------|
|        | 1 – 5   | 0         | 5.5           | 0                   |          |
|        | 6 – 10  | 3         | 10.5          | 3                   |          |
|        | 11 – 15   | 4         | 15.5          | 7                   |          |
|        | 16 – 20   | 8         | 20.5          | 15                  |          |
|        | 21 – 25   | 17        | 25.5          | 32                  |          |
|        | 26 – 30   | 6         | 30.5          | 38                  |          |
|        | 31 – 35   | 2         | 35.5          | 40                  |          |
|        | Sempadan atas<br>Kekerapan longgokan  |           |               |                     | P1<br>P2 |
|        | Nota:<br>1. Kekerapan longgokan 5 atau 6 betul, beri P1   |           |               |                     |          |
|        | Rujuk graf<br><u>Ogif</u>   |           |               |                     |          |
| (b)    | Paksi dilukis pada arah yang betul skala seragam bagi $5.5 \leq x \leq 35.5$ dan $0 \leq y \leq 40$ . |           |               |                     | K1       |
|        | 7* titik ditanda dengan betul   |           |               |                     | K2       |
|        | Lengkungan licin melalui 7* titik yang betul  |           |               |                     | N1       |
|        | Nota:<br>1. 6 atau 7 titik diplot betul, beri K1  |           |               |                     |          |
| (c)(i) | 24 minit  |           |               |                     | P1       |
| (ii)   | 36 orang  |           |               |                     | P1       |
|        |   |           |               |                     | 9        |



## 4. PAHANG SET 1

(a)

| Titik tengah<br><i>Midpoint</i> | Kekerapan longgokan<br><i>Cumulative frequency</i> |
|---------------------------------|--|
| 290.5                           | 2  |
| 310.5                           | 4  |
| 330.5                           | 10   |
| 350.5                           | 25   |
| 370.5                           | 42   |
| 390.5                           | 54   |
| 410.5                           | 59   |
| 430.5                           | 60   |

(b)

(i) 361–380

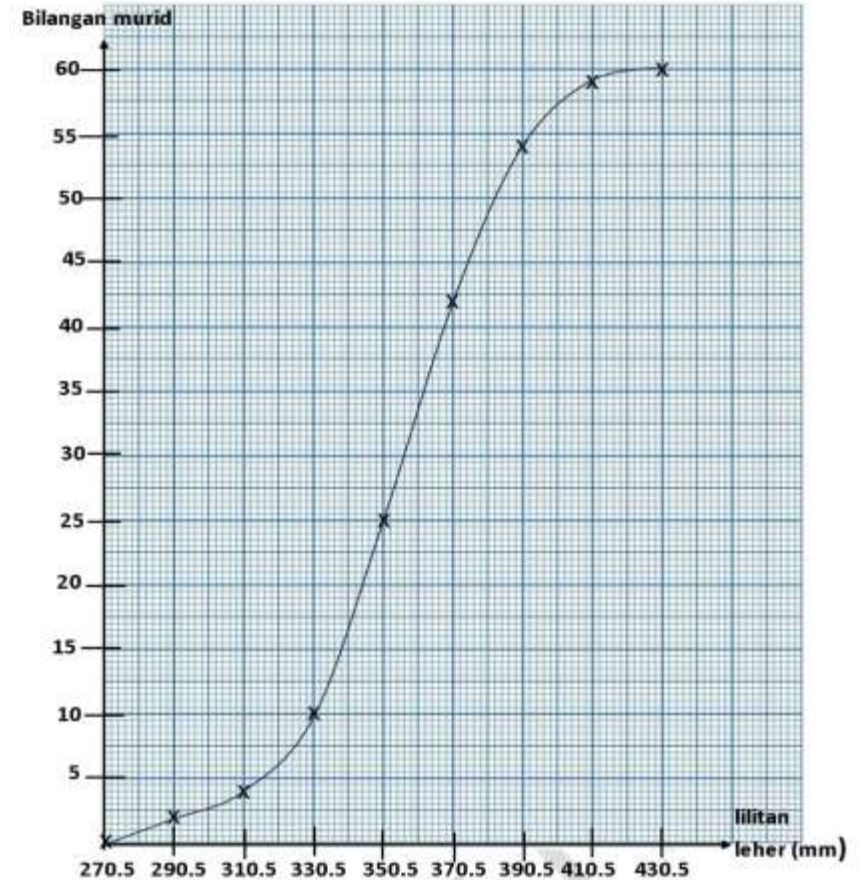
(ii)

$$\frac{2(290.5)+2(310.5)+6(330.5)+15(350.5)+17(370.5)+12(390.5)+5(410.5)+1(430.5)}{2+2+6+15+17+12+5+1}$$

$$\text{atau } \frac{21910}{60}$$

365.17

(c)

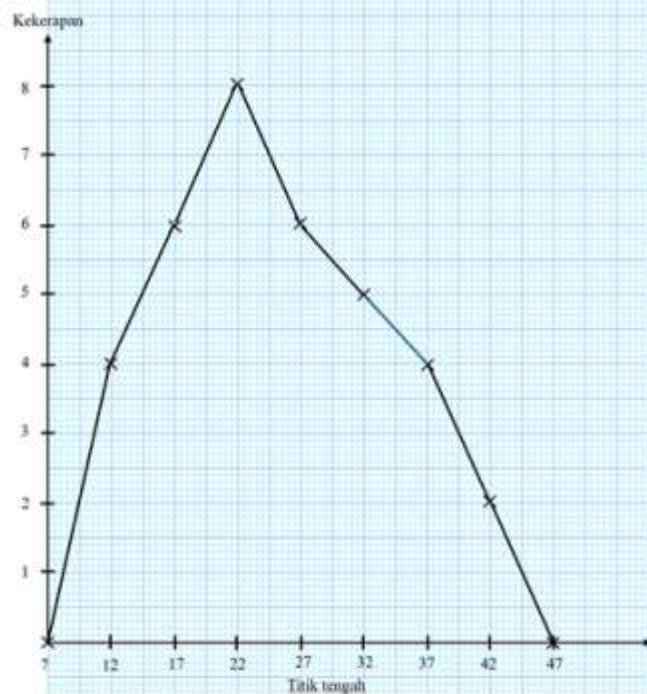


## 5. PAHANG SET 2

|     | Panjang (cm)<br><i>Length (cm)</i> | Kekerapan<br><i>n</i><br><i>Frequency</i> | Titik Tengah<br><i>Midpoint</i> |
|-----|------------------------------------|---|---------------------------------|
| I   | 10-14                              | 4   | 12                              |
| II  | 15-19                              | 6   | 17                              |
| III | 20-24                              | 8   | 22                              |
| IV  | 25-29                              | 6   | 27                              |
| V   | 30-34                              | 5   | 32                              |
| VI  | 35-39                              | 4   | 37                              |
| VII | 40-44                              | 2   | 42                              |

(a)

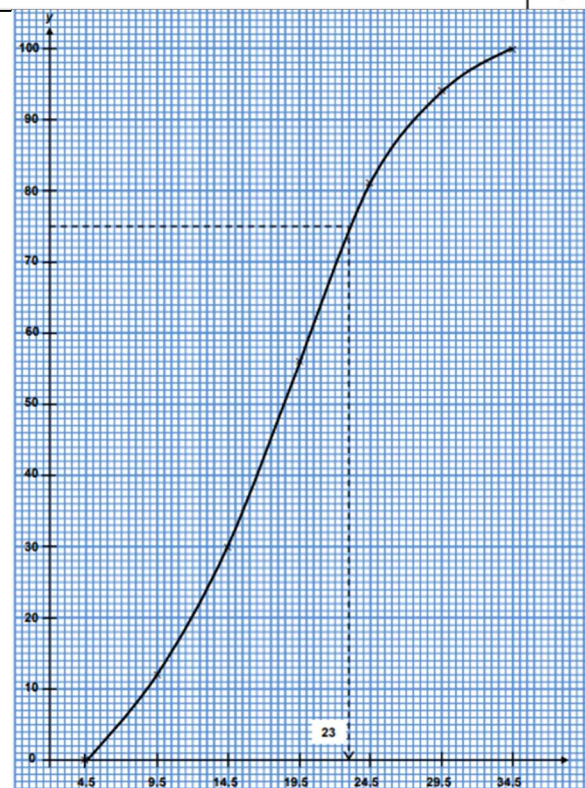
(b)



|     |  |   |
|-----|--|---|
| (c) | $\frac{4(12)+6(17)+8(22)+6(27)+5(32)+4(37)+2(42)}{35}$ | 1 |
|     | 25.14  | 1 |
|     | 30   | 1 |

## 6. MELAKA

| (a)(i)                                | $12 + 18 + 26 + 25 + 13 + 6$<br>100<br><u>Nota :</u><br>Terima jawapan tanpa kerja, beri 2 markah   | 1<br>1  |  |   |       |     |   |       |     |    |         |      |    |         |      |    |         |      |    |         |      |    |         |      |     |  |
|---------------------------------------|---|---|--|---|-------|-----|---|-------|-----|----|---------|------|----|---------|------|----|---------|------|----|---------|------|----|---------|------|-----|--|
| (ii)                                  | <table border="1"> <thead> <tr> <th>Umur (tahun) /<br/><i>Ages (years)</i></th> <th>Sempadan atas /<br/><i>Upper boundary</i></th> <th>Kekerapan longgokan /<br/><i>Cummulative frequency</i></th> </tr> </thead> <tbody> <tr> <td>0 - 4</td> <td>4.5</td> <td>0</td> </tr> <tr> <td>5 - 9</td> <td>9.5</td> <td>12</td> </tr> <tr> <td>10 - 14</td> <td>14.5</td> <td>30</td> </tr> <tr> <td>15 - 19</td> <td>19.5</td> <td>56</td> </tr> <tr> <td>20 - 24</td> <td>24.5</td> <td>81</td> </tr> <tr> <td>25 - 29</td> <td>29.5</td> <td>94</td> </tr> <tr> <td>30 - 34</td> <td>34.5</td> <td>100</td> </tr> </tbody> </table> | Umur (tahun) /<br><i>Ages (years)</i>                 | Sempadan atas /<br><i>Upper boundary</i> | Kekerapan longgokan /<br><i>Cummulative frequency</i> | 0 - 4 | 4.5 | 0 | 5 - 9 | 9.5 | 12 | 10 - 14 | 14.5 | 30 | 15 - 19 | 19.5 | 56 | 20 - 24 | 24.5 | 81 | 25 - 29 | 29.5 | 94 | 30 - 34 | 34.5 | 100 |  |
| Umur (tahun) /<br><i>Ages (years)</i> | Sempadan atas /<br><i>Upper boundary</i>  | Kekerapan longgokan /<br><i>Cummulative frequency</i> |  |   |       |     |   |       |     |    |         |      |    |         |      |    |         |      |    |         |      |    |         |      |     |  |
| 0 - 4                                 | 4.5   | 0   |  |   |       |     |   |       |     |    |         |      |    |         |      |    |         |      |    |         |      |    |         |      |     |  |
| 5 - 9                                 | 9.5   | 12  |  |   |       |     |   |       |     |    |         |      |    |         |      |    |         |      |    |         |      |    |         |      |     |  |
| 10 - 14                               | 14.5  | 30  |  |   |       |     |   |       |     |    |         |      |    |         |      |    |         |      |    |         |      |    |         |      |     |  |
| 15 - 19                               | 19.5  | 56  |  |   |       |     |   |       |     |    |         |      |    |         |      |    |         |      |    |         |      |    |         |      |     |  |
| 20 - 24                               | 24.5  | 81  |  |   |       |     |   |       |     |    |         |      |    |         |      |    |         |      |    |         |      |    |         |      |     |  |
| 25 - 29                               | 29.5  | 94  |  |   |       |     |   |       |     |    |         |      |    |         |      |    |         |      |    |         |      |    |         |      |     |  |
| 30 - 34                               | 34.5  | 100   |  |   |       |     |   |       |     |    |         |      |    |         |      |    |         |      |    |         |      |    |         |      |     |  |
|                                       | Sempadan atas : I hingga VII<br>Kekerapan longgokan : I hingga VII  | 1<br>2  |  |   |       |     |   |       |     |    |         |      |    |         |      |    |         |      |    |         |      |    |         |      |     |  |
| (b)                                   | Rujuk lampiran  | 4   |  |   |       |     |   |       |     |    |         |      |    |         |      |    |         |      |    |         |      |    |         |      |     |  |
| (c)                                   | 23  | 1   |  |   |       |     |   |       |     |    |         |      |    |         |      |    |         |      |    |         |      |    |         |      |     |  |



7. PERAK

(a)

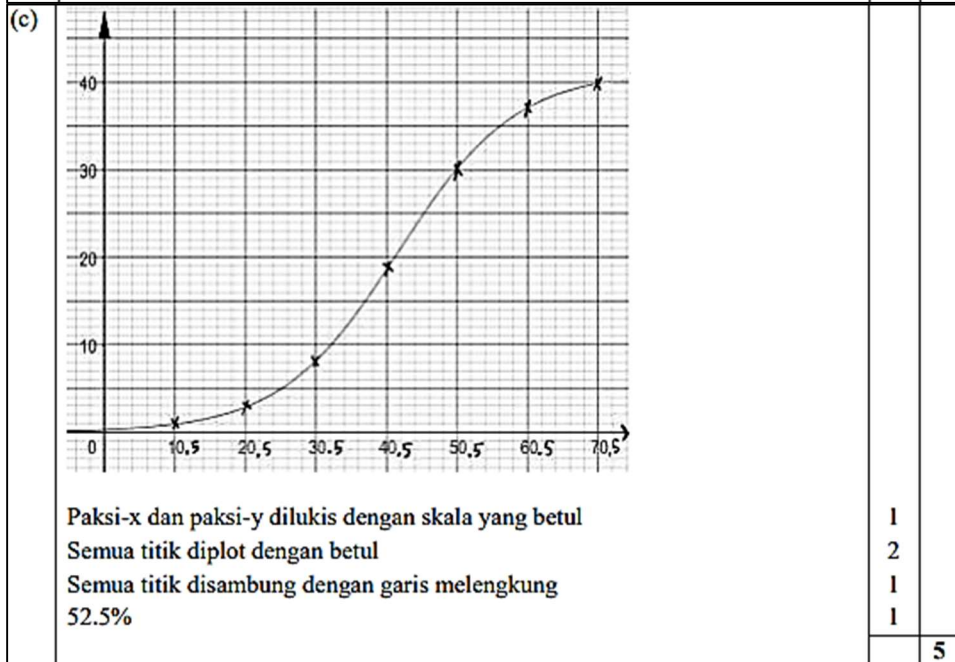
| Elaun (RM)<br><i>Allowance (RM)</i> | Kekerapan<br><i>Frequency</i> | Sempadan atas<br><i>Upper boundary</i> | Kekerapan longgokan<br><i>Cumulative frequency</i> |
|-------------------------------------|-------------------------------|--|--|
| 0                                   | 0                             | 0.5                                    | 0  |
| 1 – 10                              | 1                             | 10.5                                   | 1  |
| 11 – 20                             | 2                             | 20.5                                   | 3  |
| 21 – 30                             | 5                             | 30.5                                   | 8  |
| 31 – 40                             | 11                            | 40.5                                   | 19   |
| 41 – 50                             | 11                            | 50.5                                   | 30   |
| 51 – 60                             | 7                             | 60.5                                   | 37   |
| 61 – 70                             | 3                             | 70.5                                   | 40   |

Semua nilai sempadan atas adalah betul  
Semua nilai kekerapan longgokan adalah betul

1  
1  
2

(b) *Min anggaran / Estimated mean*  
=  
 $(1 \times 5.5 + 2 \times 15.5 + 5 \times 25.5 + 11 \times 35.5 + 11 \times 45.5 + 7 \times 55.5 + 3 \times 65.5) / (1 + 2 + 5 + 11 + 11 + 7 + 3)$  atau setara  
41

2  
1  
3



1  
2  
1  
1  
5

8. SABK

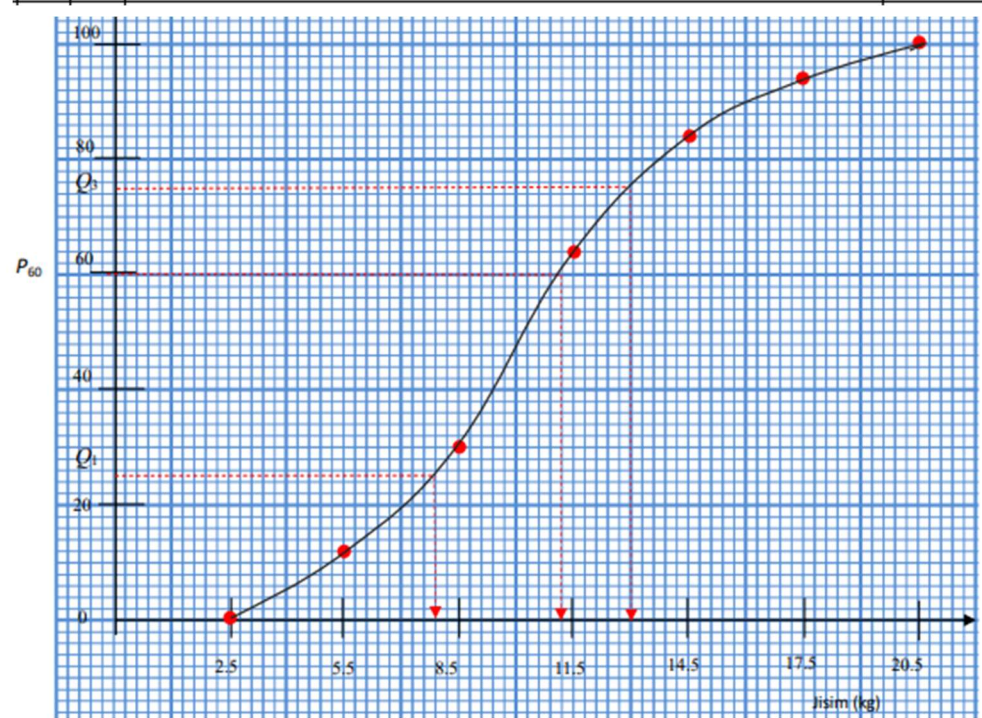
(a)

| Jisim<br><i>Mass</i> | Kekerapan<br><i>Frequency</i> | Kekerapan Longgokan<br><i>Cumulative frequency</i> | Sempadan Atas<br><i>Upper boundary</i> |
|----------------------|-------------------------------|--|--|
| 3 - 5                | 12                            | 12   | 5.5                                    |
| 6 - 8                | 18                            | 30   | 8.5                                    |
| 9 - 11               | 34                            | 64   | 11.5                                   |
| 12 - 14              | 20                            | 84   | 14.5                                   |
| 15 - 17              | 10                            | 94   | 17.5                                   |
| 18 - 20              | 6                             | 100  | 20.5                                   |

2 M

(c) (i)  $\frac{1}{4} \times 100$  atau  $\frac{3}{4} \times 100$  atau 25 atau 75  
13.0 - 7.8  
5.2  
1 M

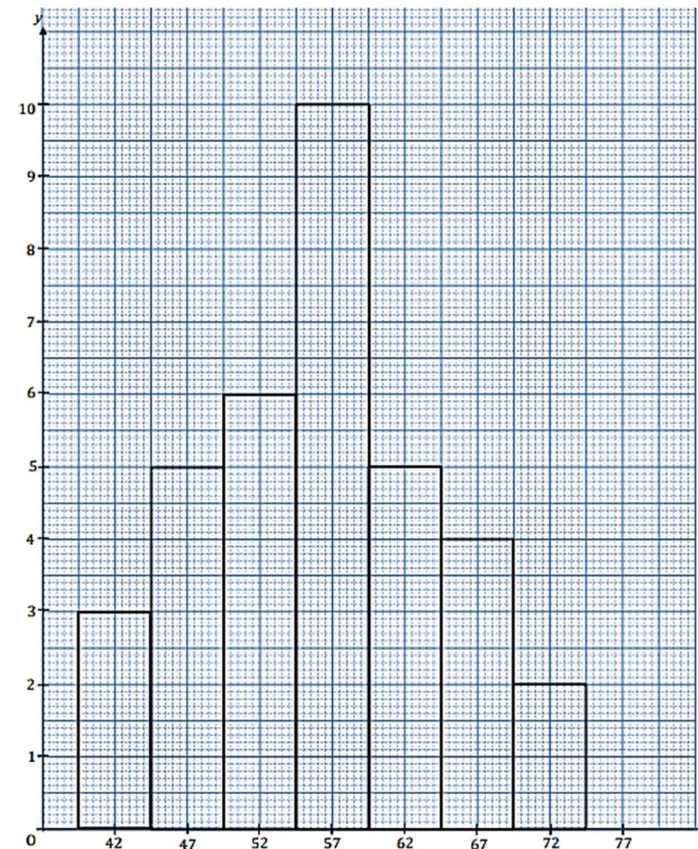
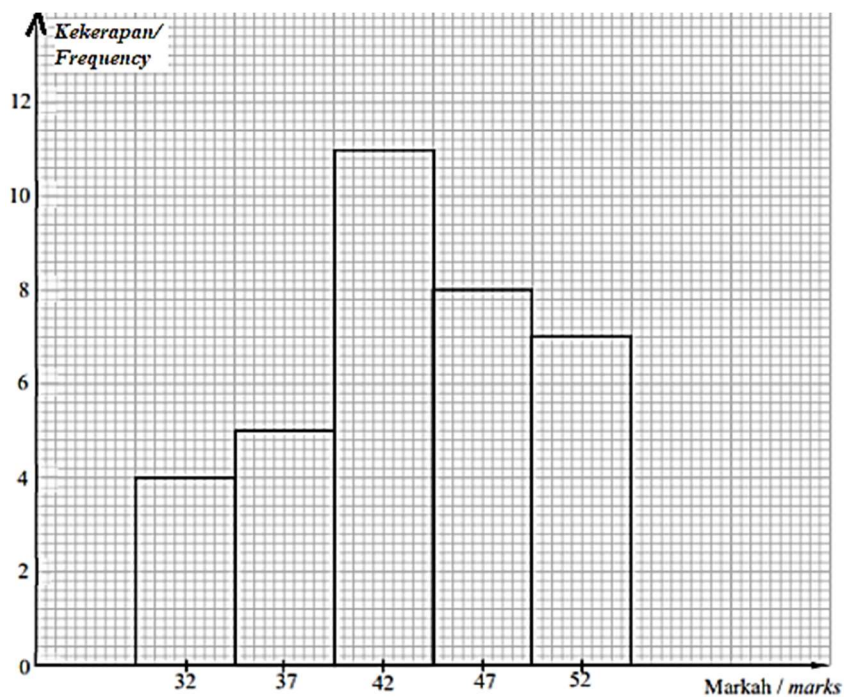
(ii) 11.3  
1 M



9. TERENGGANU MPP3

(i) 11

U1



10. MUAR JOHOR

| (a)     | Jisim (kg)   | Kekerapan | <b>P2</b> |
|---------|--|-----------|-----------|
|         | 40 - 44  | 3         |           |
|         | 45 - 49  | 5         |           |
|         | 50 - 54  | 6         |           |
|         | 55 - 59  | 10        |           |
|         | 60 - 64  | 5         |           |
|         | 65 - 69  | 4         |           |
|         | 70 - 74  | 2         |           |
|         | <u>Nota:</u><br>Terima maksimum 2 kesalahan pada kekerapan untuk markah P1 |           |           |
| (b)     | * 55 - 59  |           | <b>P2</b> |
| (c)(ii) | Bentuk loceng  |           | <b>P1</b> |

11. SPMU

| (a) | Sempadan Atas (kg)<br>Upper Boundary (kg) | Kekerapan Longgokan<br>Cumulative Frequency |
|-----|---|---|
|     | 29.5                                      | 0   |
|     | 34.5                                      | 1   |
|     | 39.5                                      | 9   |
|     | 44.5                                      | 21  |
|     | 49.5                                      | 30  |
|     | 54.5                                      | 36  |
|     | 59.5                                      | 40  |

