

JABATAN PENDIDIKAN NEGERI MELAKA

PERATURAN PEMARKAHAN
 UJIAN DIAGNOSTIK 3 TAHUN 2023
 TINGKATAN 5

MATEMATIK KERTAS 1 (1449/1)

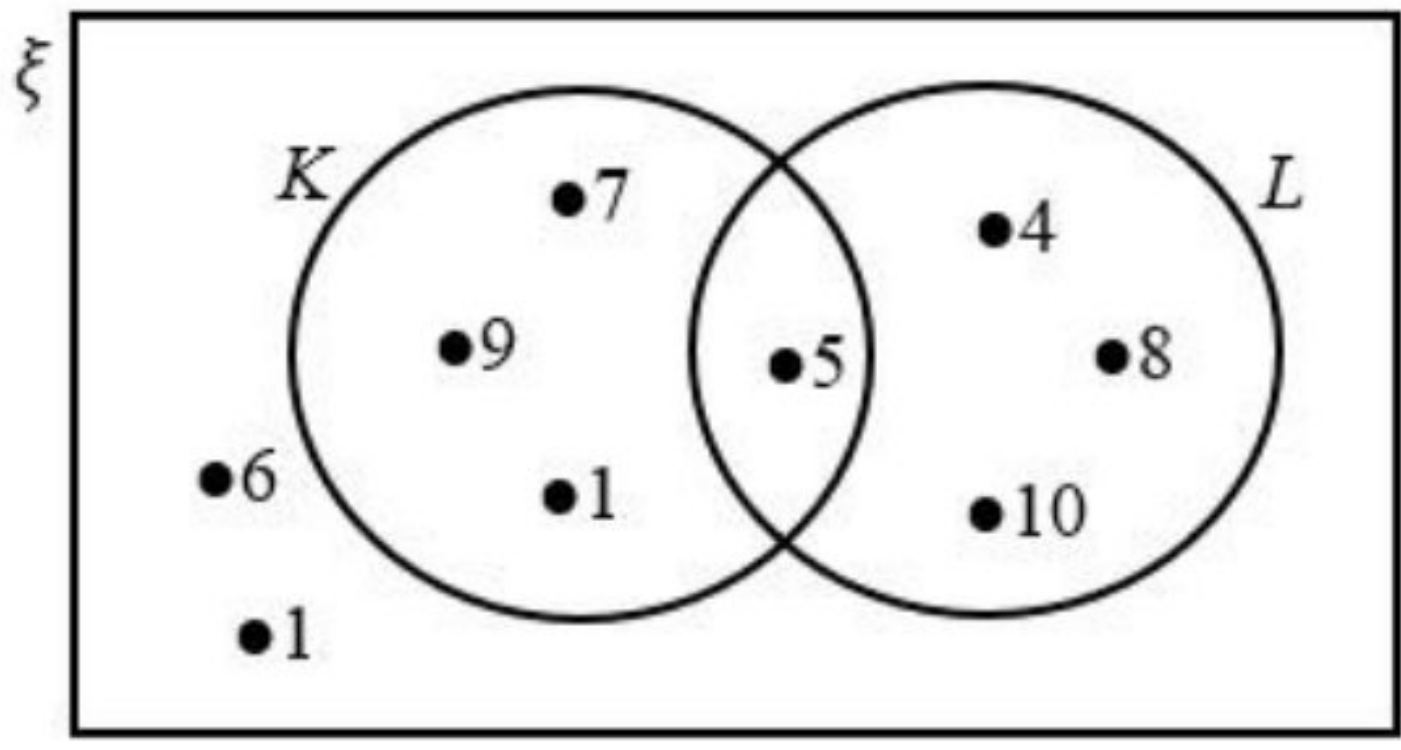
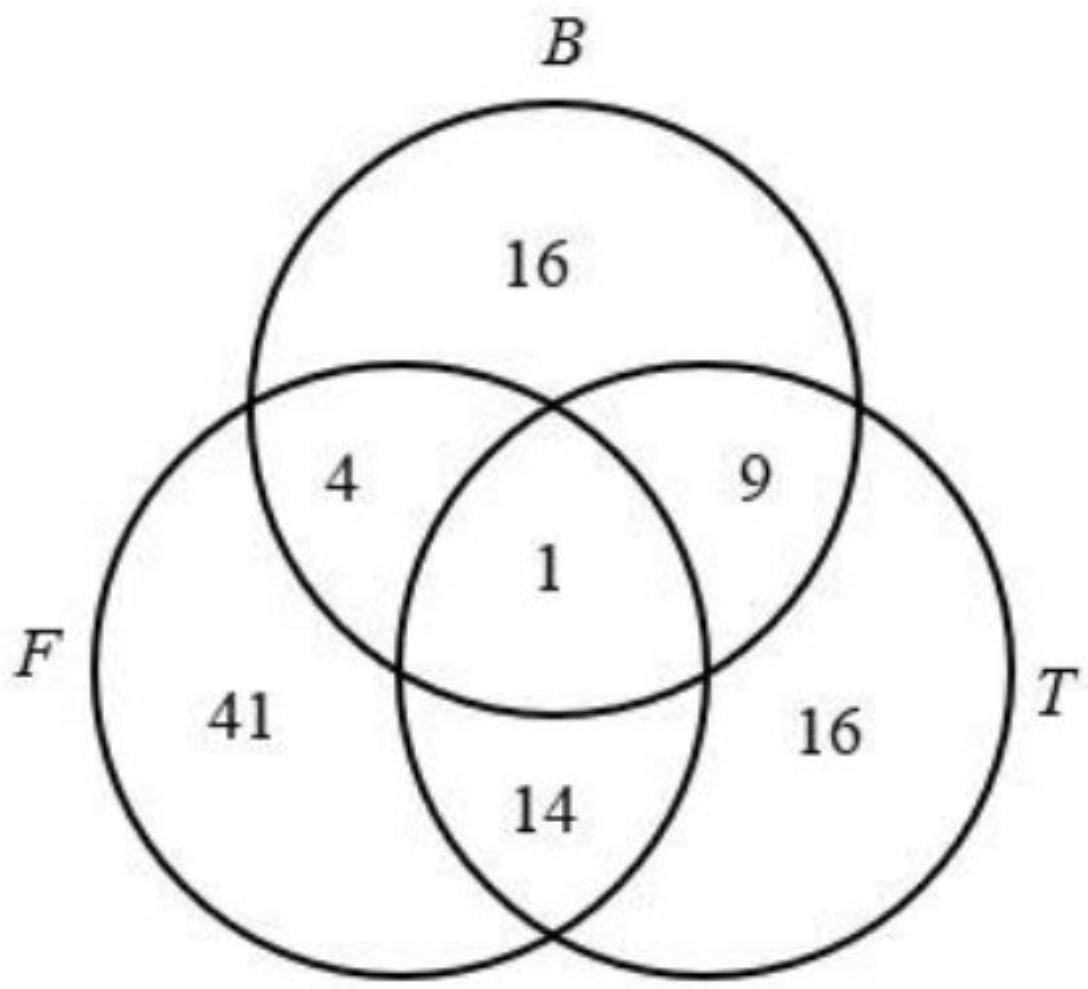
| Soalan | Jawapan | Soalan | Jawapan | Soalan | Jawapan | Soalan | Jawapan |
|--------|---------|--------|---------|--------|---------|--------|---------|
| 1 | B | 11 | B | 21 | C | 31 | A |
| 2 | C | 12 | A | 22 | B | 32 | C |
| 3 | D | 13 | D | 23 | B | 33 | C |
| 4 | B | 14 | A | 24 | C | 34 | C |
| 5 | A | 15 | C | 25 | B | 35 | B |
| 6 | B | 16 | A | 26 | A | 36 | D |
| 7 | D | 17 | D | 27 | B | 37 | D |
| 8 | D | 18 | C | 28 | A | 38 | C |
| 9 | D | 19 | C | 29 | A | 39 | B |
| 10 | C | 20 | D | 30 | B | 40 | C |

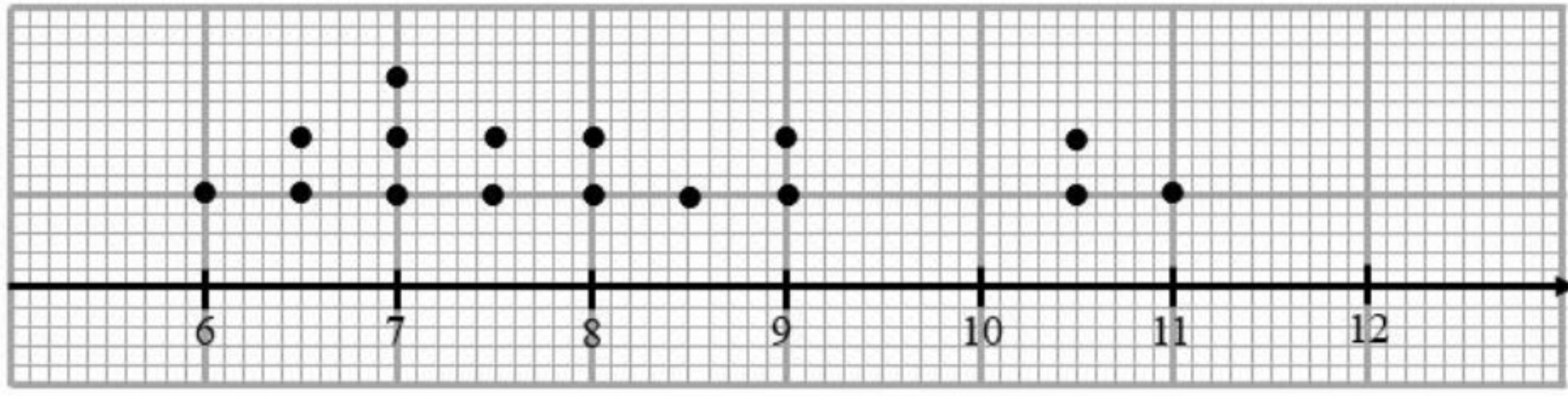
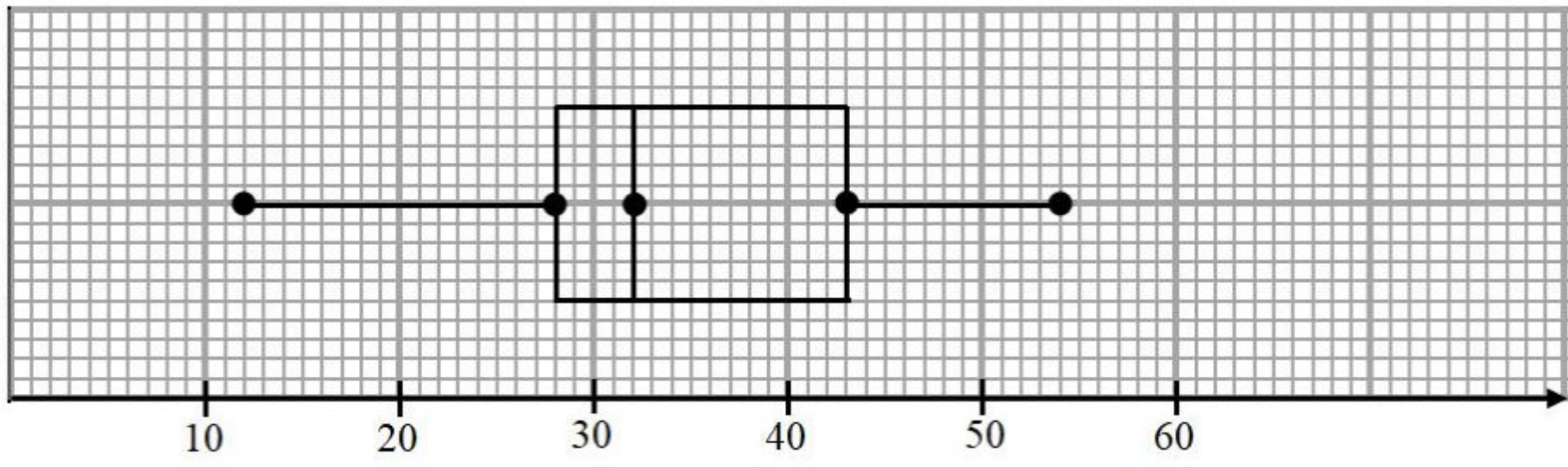
MATEMATIK KERTAS 2 (1449/2)

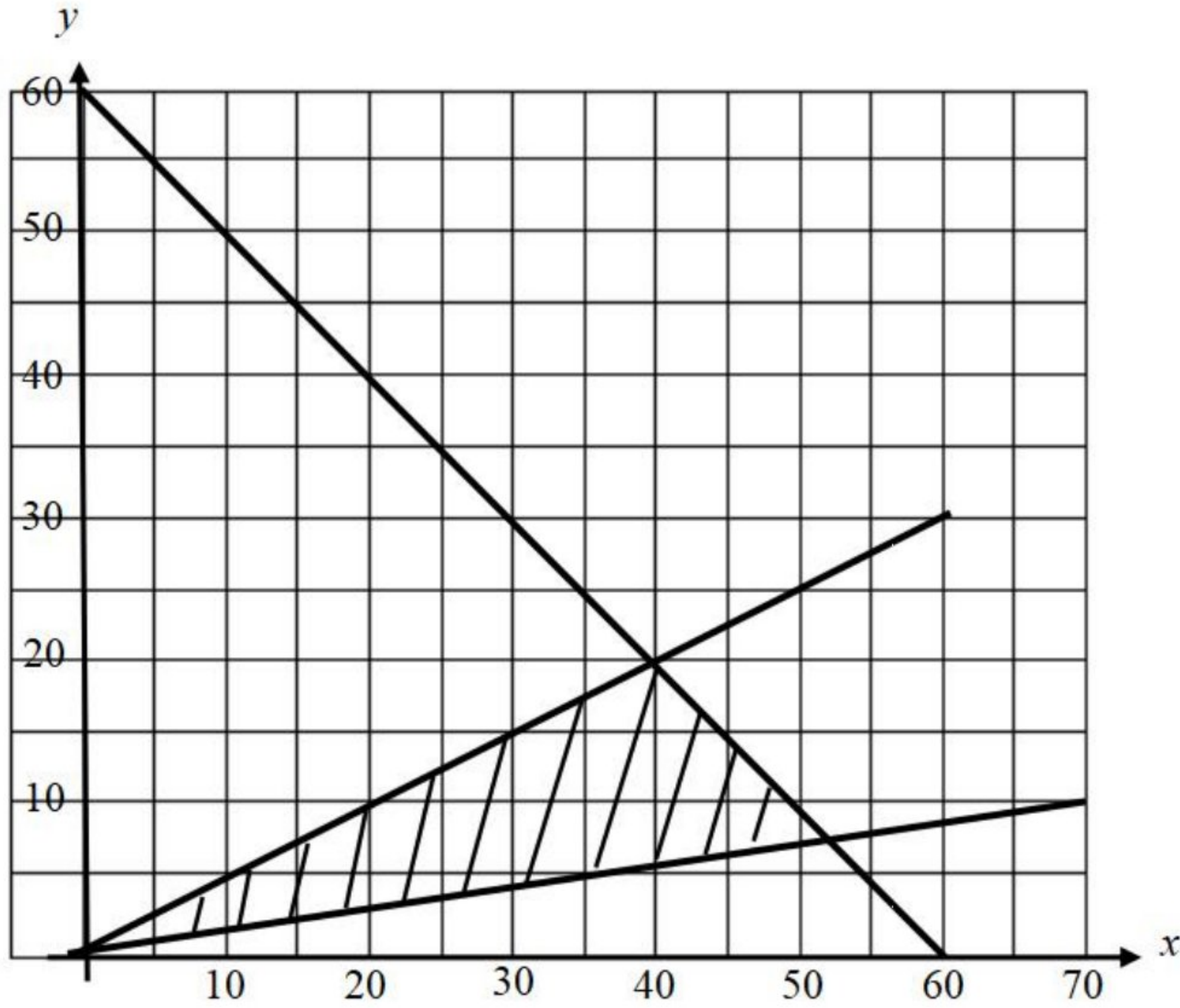
| Soalan | Peraturan Pemarkahan | Markah | | |
|----------|------------------------------------------------------------------------------------------------------------|--------|---|----------|
| 1 | $N \propto \frac{1}{T} \text{ atau } N = \frac{k}{T}$ $N = \frac{60}{T}$ 6 | 1 | 1 | 3 |
| 2 | 222_3 26_{10} <u>atau</u> 1101_3 <u>atau</u> 37_{10} 100101_2 | 1 | 1 | 3 |
| 3 | $(266.50 + 84 \times 20.30) - (0.55 \times 1971.50)$ <u>Nota :</u> 266.50 dilihat, beri 1m 887.27 | 2 | 1 | 3 |
| 4 | (a) $\frac{5}{8} \times \frac{1}{3}$ $\frac{5}{24}$ | 1 | 1 | 4 |
| | (b) $1 - \left(\frac{5}{8} + \frac{1}{3} - \frac{5}{24} \right) \text{ atau setara}$ $\frac{1}{4}$ | 1 | 1 | |

| Soalan | | Peraturan Pemarkahan | Markah | |
|--------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---|
| 5 | (a) | Palsu | 1 | 4 |
| | (b) | Garis lurus AB hanya menyentuh bulatan P pada satu titik sahaja. | 1 | |
| | (c) | $215[(6)^2 + 6 + 100]$ 30 530 | 1 1 | |
| 6 | (a) | Majlis perbandaran <u>atau</u> Majlis daerah atau Pihak berkuasa tempatan atau setara | 1 | 4 |
| | (b) | $1\ 300 \times 12$ <u>atau</u> 15 600 $\frac{5.7}{100} \times 15600$ 889.20 | 1 1 1 | |
| 7 | | $40p(2p - 3) + (60p - 10)(p - 1) = 190$ $140p^2 - 190p - 180 = 0$ atau setara $(14p + 9)(p - 2) = 0$ $p = 2$ | 1 1 1 1 | 4 |
| 8 | (a) | 18 | 1 | 5 |
| | (b)(i) | $\frac{20 - 40}{32 - 0}$ <u>atau</u> setara -0.625 | 1 1 | |
| | (b)(ii) | Nyahpecutan 0.625 ms^{-2} untuk tempoh 32 s <u>atau</u> nyahpecutan 0.625 pada jarak 480 m <u>atau</u> setara | 2 | |
| 9 | (a) | $-\frac{1}{2}$ <u>atau</u> setara | 1 | 5 |
| | (b) | $6 = -\frac{1}{2}(4) + c$ <u>atau</u> $c = 8$ <u>atau</u> setara $y = -\frac{1}{2}x + 8$ | 1 1 | |
| | (c) | $0 = -\frac{1}{2}x + 8$ 16 | 1 1 | |
| 10 | (a) | $\frac{60}{360} \times 2 \times \frac{22}{7} \times 10$ 10.48 <u>atau</u> $10\frac{10}{21}$ <u>atau</u> $\frac{220}{21}$ | 1 1 | 5 |
| | (b) | $\frac{1}{2} \times 10 \times 17$ <u>atau</u> $\frac{60}{360} \times \frac{22}{7} \times 10^2$ <u>atau</u> $\frac{30}{360} \times \frac{22}{7} \times 10^2$ $\frac{1}{2} \times 10 \times 17 - \frac{60}{360} \times \frac{22}{7} \times 10^2 + \frac{30}{360} \times \frac{22}{7} \times 10^2$ <u>atau</u> setara 58.81 <u>atau</u> $58\frac{17}{21}$ <u>atau</u> $\frac{1235}{21}$ | 1 1 1 | |

| Soalan | | Peraturan Pemarkahan | Markah | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|---------------------------------------------|---------------------------------|----------------------------------------|---------|---|----|------|---------|---|----|------|---------|---|----|------|---------|---|----|------|---------|----|----|------|---------|---|----|------|---------|---|----|------|--------|----------|
| 11 | (a) | <table border="1"> <thead> <tr> <th>Markah <i>Marks</i></th> <th>Bilangan murid <i>Number of students</i></th> <th>Titik tengah <i>Midpoint</i></th> <th>Sempadan atas <i>Upper boundary</i></th> </tr> </thead> <tbody> <tr> <td>60 – 64</td> <td>3</td> <td>62</td> <td>64.5</td> </tr> <tr> <td>65 – 69</td> <td>4</td> <td>67</td> <td>69.5</td> </tr> <tr> <td>70 – 74</td> <td>7</td> <td>72</td> <td>74.5</td> </tr> <tr> <td>75 – 79</td> <td>6</td> <td>77</td> <td>79.5</td> </tr> <tr> <td>80 – 84</td> <td>10</td> <td>82</td> <td>84.5</td> </tr> <tr> <td>85 – 89</td> <td>8</td> <td>87</td> <td>89.5</td> </tr> <tr> <td>90 – 94</td> <td>7</td> <td>92</td> <td>94.5</td> </tr> </tbody> </table> <p>Titik tengah : I hingga VII Sempadan atas : II hingga VII</p> | Markah <i>Marks</i> | Bilangan murid <i>Number of students</i> | Titik tengah <i>Midpoint</i> | Sempadan atas <i>Upper boundary</i> | 60 – 64 | 3 | 62 | 64.5 | 65 – 69 | 4 | 67 | 69.5 | 70 – 74 | 7 | 72 | 74.5 | 75 – 79 | 6 | 77 | 79.5 | 80 – 84 | 10 | 82 | 84.5 | 85 – 89 | 8 | 87 | 89.5 | 90 – 94 | 7 | 92 | 94.5 | 1 1 | 2 |
| | Markah <i>Marks</i> | Bilangan murid <i>Number of students</i> | Titik tengah <i>Midpoint</i> | Sempadan atas <i>Upper boundary</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 60 – 64 | 3 | 62 | 64.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 65 – 69 | 4 | 67 | 69.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 70 – 74 | 7 | 72 | 74.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 75 – 79 | 6 | 77 | 79.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 80 – 84 | 10 | 82 | 84.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 85 – 89 | 8 | 87 | 89.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 90 – 94 | 7 | 92 | 94.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (b) | $\frac{(3 \times 62) + (4 \times 67) + (7 \times 72) + (6 \times 77) + (10 \times 82) + (8 \times 87) + (7 \times 92)}{3 + 4 + 7 + 6 + 10 + 8 + 7}$ $\frac{716}{9} \text{ atau } 79\frac{5}{9} \text{ atau } 79.56$ | 2 1 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (c) | <p>Paksi dilukis pada arah yang betul dengan skala seragam untuk $19.5 \leq x \leq 94.5$ dan $0 \leq y \leq 10$</p> <p>7 palang dilukis betul menggunakan nilai sempadan / selang kelas / titik tengah</p> <p><u>Nota</u> : 5 atau 6 palang dilukis betul, beri 1m</p> <p>Histogram betul menggunakan skala diberi</p> | 1 2 1 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | (9) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | (a)(i) | $\begin{pmatrix} 3 \times 1 + 1 \times 4 \\ 5 \times 1 + 2 \times 4 \end{pmatrix} \text{ atau setara}$ $\begin{pmatrix} 7 \\ 13 \end{pmatrix}$ <p><u>Nota</u> : Terima jawapan tanpa kerja, beri 2m</p> | 1 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | (a)(ii) | $\begin{pmatrix} 3 & 1 \\ 5 & 2 \end{pmatrix} \begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix} \text{ atau setara}$ <p><u>Nota</u> : $\begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix}$ dilihat, beri 1m</p> $\begin{pmatrix} 3 & 1 \\ 5 & 2 \end{pmatrix}$ <p><u>Nota</u> : Terima jawapan tanpa kerja, beri 2m</p> | 1 1 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Soalan | | Peraturan Pemarkahan | Markah | |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-----|
| 12 | (b) | $3x - y = 3$ atau $4320x + 3552y = 34\ 272$ $\begin{pmatrix} 3 & -1 \\ 4320 & 3552 \end{pmatrix} \begin{pmatrix} x \\ y \end{pmatrix} = \begin{pmatrix} 3 \\ 34272 \end{pmatrix}$ $\begin{pmatrix} x \\ y \end{pmatrix} = \frac{1}{(3)(3552) - (-1)(4320)} \begin{pmatrix} 3552 & 1 \\ -4320 & 3 \end{pmatrix} \begin{pmatrix} 3 \\ 34272 \end{pmatrix}$ $x = 3, y = 6$ Nota : Terima tanpa titik perpuluhan atau 2 t.p sahaja | 1 | 5 |
| | | | 1 | |
| | | | 1, 1 | (9) |
| 13 | (a)(i) | Set $K = \{5, 7, 9, 11\}$ Set $L = \{4, 5, 8, 10\}$ | 1 | 5 |
| | (a)(ii) |  <p>Nota :</p> <ol style="list-style-type: none"> 3 set dilukis dan dilabel dengan betul, dengan unsur yang salah atau tanpa unsur, beri 2m Set K dan L dilukis dan dilabel, dengan unsur yang betul, beri 2m $K \cap L$ dilihat, beri 1m | 3 | |
| (b)(i) | |  <p>Nota :</p> <ol style="list-style-type: none"> Jika $n(F \cap B \cap T') = 4$ dan $n(F \cap T \cap B') = 14$ dan $n(T \cap B \cap F') = 9$, beri 1m Jika $n(B \cup T)' = 41$ dan $n(F \cup T)' = 16$ dan $n(F \cup B)' = 16$, beri 1m | 2 | 4 |
| | (b)(ii) | 28 | 1 | |
| | (b)(iii) | 41 | 1 | |
| | | | | (9) |

| Soalan | | Peraturan Pemarkahan | Markah | |
|---------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---|
| 14 | (a)(i) | (3, 6) | 1 | 3 |
| | (a)(ii) | (3, 10) <u>Nota :</u> (3, 8) ditanda pada rajah <u>atau</u> (5, 6) dilihat <u>atau</u> (5, 6) ditanda pada rajah, beri 1m | 2 | |
| | (b)(i) | (a) Pantulan pada garis $x = 1$. <u>Nota :</u> Pantulan, beri 1m (b) Pembesaran pada pusat $(-4, 2)$ dengan faktor skala 3. <u>Nota :</u> 1. Pembesaran, faktor skala 3 <u>atau</u> Pembesaran, pusat $(-4, 2)$, beri 2m 2. Pembesaran, beri 1 m | 2 3 | 5 |
| (b)(ii) | $*3^2 \times 28$ 252 | 1 1 | 2 | |
| | | | (10) | |
| 15 | (a)(i) |  <p style="text-align: center;">Saiz kasut Sizes of shoes</p> <p><u>Nota :</u> 13 atau 14 titik diplot dengan betul, beri 1m</p> | 2 | 3 |
| | (a)(ii) | 5 | 1 | |
| | (b)(i) |  <p><u>Nota :</u> 1. 3 atau 4 titik ditanda dengan betul, beri 2m 2. Plot dengan betul titik nilai maksimum <u>atau</u> nilai minimum <u>atau</u> median <u>atau</u> kuartil 1 <u>atau</u> kuartil 3, beri 1m</p> | 3 | |
| | (b)(ii) | Julat = 42 Julat antara kuartil = 15 | 1 1 | 5 |
| | | | (8) | |

| Soalan | | Peraturan Pemarkahan | Markah | |
|--------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|---|
| 16 | (a) | $4x + 36y = 2150$ <u>atau</u> $2x + 34y = 1875$ <u>atau</u> setara $32y = 1600$ <u>atau</u> setara $x = 87.50, y = 50$ | 1 1 1, 1 | 4 |
| | (b) |  <p>Garis lurus $x + y = 60$ dilukis dengan betul Rantau dilorek dengan betul Nota : Jika rantau dilorek dengan betul dengan garis lurus $x + y = 60$ dilukis menggunakan garis putus-putus, beri 2m</p> | 1 2 | 3 |
| | (c) | Tapak perkhemahan $\rightarrow R \rightarrow Q \rightarrow V \rightarrow U \rightarrow T \rightarrow S \rightarrow P \rightarrow$ Tapak perkhemahan $300 + 400 + 500 + 600 + 450 + 600 + 700 + 500$ 3 350 | 1 2 1 | 4 |
| | (d)(i) | $5380 - 2250 - 2900$ 230 | 1 1 | 4 |
| | (d)(ii) | $5380 - 2250 - 2900 - 450$ <u>atau</u> -220 Terima semua jawapan yang munasabah | 1 1 | |
| | | | (15) | |

| Soalan | | Peraturan Pemarkahan | Markah | |
|--------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-------------|
| 17 | (a) | $30x + 30y \leq 360$ <u>atau</u> setara $20x + 30y \geq 240$ <u>atau</u> setara $y \leq \frac{1}{2}x$ <u>atau</u> setara | 1 1 1 | 3 |
| | (b) | $135\,000 \times 0.12$ <u>atau</u> $16\,200$ <u>atau</u> setara $\frac{2.75}{100} \times (135\,000 - 16\,200) \times 9$ <u>atau</u> setara $\frac{(135\,000 - 16\,200) + \frac{2.75}{100} \times (135\,000 - 16\,200) \times 9}{9 \times 12}$ <u>atau</u> setara 1372.25 | 1 1 1 1 | 4 |
| | (c)(i) | $100 + 80 + 60 + 28 + 28 + 70 + 70$ <u>atau</u> setara 436 | 1 1 | 4 |
| | (c)(ii) | $(180 \times 80) - (28 \times 70) - \left(\frac{1}{2} \times 60 \times 80\right)$ <u>atau</u> setara 10\,040 | 1 1 | |
| | (d)(i) | $\frac{24}{t} = \frac{60 - 24}{3t - (t + 10)}$ <u>atau</u> setara 20 | 1 1 | 4 |
| | (d)(ii) | $\frac{60}{\left(\frac{3 \times 20}{60}\right)}$ <u>atau</u> setara 60 | 1 1 | |
| | | | | (15) |

Graf untuk Soalan 11
Graph for Question 11

