

**Skema MPP 3  
Matematik SPM  
Kertas 1 & 2  
Tahun 2025**



**KEMENTERIAN PENDIDIKAN MALAYSIA**  
**Jabatan Pendidikan Negeri Terengganu**

## **SKEMA**

# **MPP 3 – TAHUN 2025**

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**MATEMATIK 1449/1/2**

**Kertas 1 & 2**

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### **PERATURAN PEMARKAHAN**

$$\text{Markah} = \frac{\text{Kertas 1} + \text{Kertas 2}}{140}$$

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Peraturan Pemarkahan ini mengandungi **14** halaman bercetak

## SKEMA PEMARKAHAN

## MODUL PERKEMBANGAN PEMBELAJARAN 3 (MPP 3) / 2025

MATEMATIK KERTAS 1

| No | Jawapan | No | Jawapan | No | Jawapan | No | Jawapan |
|----|---------|----|---------|----|---------|----|---------|
| 1  | B       | 11 | C       | 21 | D       | 31 | C       |
| 2  | A       | 12 | B       | 22 | C       | 32 | A       |
| 3  | C       | 13 | D       | 23 | A       | 33 | B       |
| 4  | C       | 14 | C       | 24 | B       | 34 | C       |
| 5  | B       | 15 | B       | 25 | A       | 35 | A       |
| 6  | B       | 16 | C       | 26 | D       | 36 | A       |
| 7  | B       | 17 | C       | 27 | B       | 37 | C       |
| 8  | D       | 18 | B       | 28 | D       | 38 | A       |
| 9  | D       | 19 | D       | 29 | A       | 39 | D       |
| 10 | D       | 20 | C       | 30 | B       | 40 | B       |

Analisis Jawapan :

| JAWAPAN | SOALAN |       |       |       | JUMLAH |
|---------|--------|-------|-------|-------|--------|
|         | 1-10   | 11-20 | 21-30 | 31-40 |        |
| A       | 1      | 0     | 3     | 4     | 8      |
| B       | 4      | 3     | 3     | 2     | 12     |
| C       | 2      | 5     | 1     | 3     | 11     |
| D       | 3      | 2     | 3     | 1     | 9      |
|         |        |       |       |       | 40     |

**MATEMATIK KERTAS 2****BAHAGIAN A**

| Soalan | Peraturan Permarkahan                                                                                                                                                                                                                                                                                                                                                                | Markah                 |          |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|----------|
| 1      | $4 = 2(6) + c$<br>Nota : Jika 2 dilihat beri W1<br><br>$y = 2x - 8$                                                                                                                                                                                                                                                                                                                  | W2<br><br><br>V1       | <u>3</u> |
| 2      | $\frac{-(-4)}{2(-1)}$ <u>atau</u> setara ( $-2$ dilihat )<br><br>$-(-2)^2 - 4(-2) + 5$ <u>atau</u> 9<br><br>$(-2, 9)$                                                                                                                                                                                                                                                                | W1<br><br>W1<br><br>V1 | <u>3</u> |
| 3 (a)  | (i) $\{e\}$<br>(ii) $\{a, b, c, e, h, i, k, l\}$<br>Nota : $\{b, e, i\}$ beri U1                                                                                                                                                                                                                                                                                                     | U1<br><br>U2           | <u>4</u> |
| (b)    | 6                                                                                                                                                                                                                                                                                                                                                                                    | U1                     |          |
| 4 (a)  | Palsu / False                                                                                                                                                                                                                                                                                                                                                                        | U1                     | <u>4</u> |
| (b)    | Akas: Jika $A \cup B = B$ , maka $A \cap B = A$ .<br>Converse: If $A \cup B = B$ , then $A \cap B = A$ .<br><br>Songsangan: Jika $A \cap B \neq A$ , maka $A \cup B \neq B$ .<br>Inverse: If $A \cap B \neq A$ , then $A \cup B \neq B$ .<br><br>Kontrapositif: Jika $A \cup B \neq B$ , maka $A \cap B \neq A$ .<br>Contrapositive: If $A \cup B \neq B$ , then $A \cap B \neq A$ . | U1<br><br>U1<br><br>U1 |          |

| Soalan                                                                                                                                                                     | Peraturan Permarkahan                           | Markah                                  |          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-----------------------------------------|----------|
| <p>5 (a) Jumlah jisim ikan dan daging adalah selebih-lebihnya 20 <i>atau</i> setara<br/> <i>The total mass of fish and meat is at most 20 or equivalent</i></p> <p>(b)</p> | <p>Terima : tidak melebihi 20 @ maksimum 20</p> | <p>U1</p> <p>W1</p> <p>W1</p> <p>V1</p> | <p>4</p> |
| <p>6 (a) 30</p> <p>(b)</p> $60 = \frac{165 - d}{\left(\frac{70}{60}\right)} \text{ atau setara}$ <p>Nota :</p> $\frac{165 - d}{70} \text{ beri W1}$ <p>95</p>              |                                                 | <p>U1</p> <p>W2</p> <p>V1</p>           | <p>4</p> |

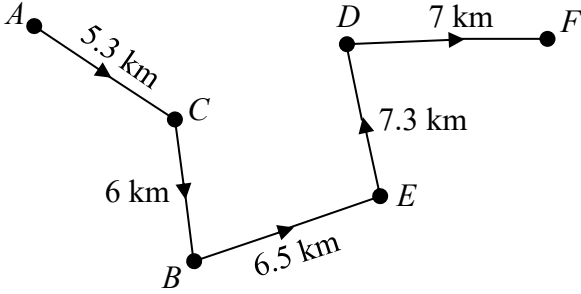
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| Soalan | Peraturan Permarkahan                                                                                                                                                                                                                                                                                                       | Markah |          |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|----------|
| 7 (a)  |                                                                                                                                                                                                                                                                                                                             | U1     |          |
| (b)    | $\left(\frac{2}{5} \times \frac{5}{8}\right) + \left(\frac{3}{5} \times \frac{3}{8}\right)$ <p>Nota :</p> $\left(\frac{2}{5} \times \frac{5}{8}\right) \text{ atau } \left(\frac{3}{5} \times \frac{3}{8}\right) \text{ beri W1}$ $\frac{19}{40}$                                                                           | W2     |          |
|        |                                                                                                                                                                                                                                                                                                                             | V1     | <u>4</u> |
| 8      | $220 + \left(\frac{45000 - 1000}{1000}\right) \times 20.30 \text{ atau setara}$ <p>Nota :</p> $220 \text{ atau } \left(\frac{45000 - 1000}{1000}\right) \times 20.30 \text{ atau } 893.20 \text{ W1}$ $1113.20$ $1113.20 - \left(\frac{25}{100} \times 1113.20\right) \text{ atau } \frac{75}{100} \times 1113.20$ $834.90$ | W2     |          |
|        |                                                                                                                                                                                                                                                                                                                             | V1     |          |
|        |                                                                                                                                                                                                                                                                                                                             | W1     |          |
|        |                                                                                                                                                                                                                                                                                                                             | V1     | <u>5</u> |

| Soalan        | Peraturan Permarkahan                                                                                                                                                                                                                                                               | Markah |         |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|---------|
| <b>9</b>      | $49500 - 250 - 15300$ <i>atau</i> $33950$<br><br>$150 + \left[ (33950 - 20000) \times \frac{3}{100} \right]$ <i>atau setara</i><br><br>Nota :<br>$150$ <i>atau</i> $(33950 - 20000) \times \frac{3}{100}$ <i>atau</i> $418.50$ <i>beri</i> W1<br><br>$568.50 - 400$<br><br>$168.50$ | W1     | <hr/> 5 |
|               |                                                                                                                                                                                                                                                                                     | W2     |         |
|               |                                                                                                                                                                                                                                                                                     | W1     |         |
|               |                                                                                                                                                                                                                                                                                     | V1     |         |
|               |                                                                                                                                                                                                                                                                                     |        |         |
| <b>10</b> (a) | (i) 1.5<br>(ii) 3.5                                                                                                                                                                                                                                                                 | V1     | <hr/> 4 |
|               |                                                                                                                                                                                                                                                                                     | V1     |         |
|               |                                                                                                                                                                                                                                                                                     |        |         |
| (b)           | <p>0.5 dan 3.5 dilihat pada paksi-y dan melalui 3.5.<br/> <i>0.5 and 3.5 seen on y-axis and passing through 3.5.</i></p> <p>Nota : Bentuk graf yang betul <i>beri</i> W1<br/> <i>Note : Correct shape of graph give W1</i></p>                                                      | W2     |         |

**BAHAGIAN B**

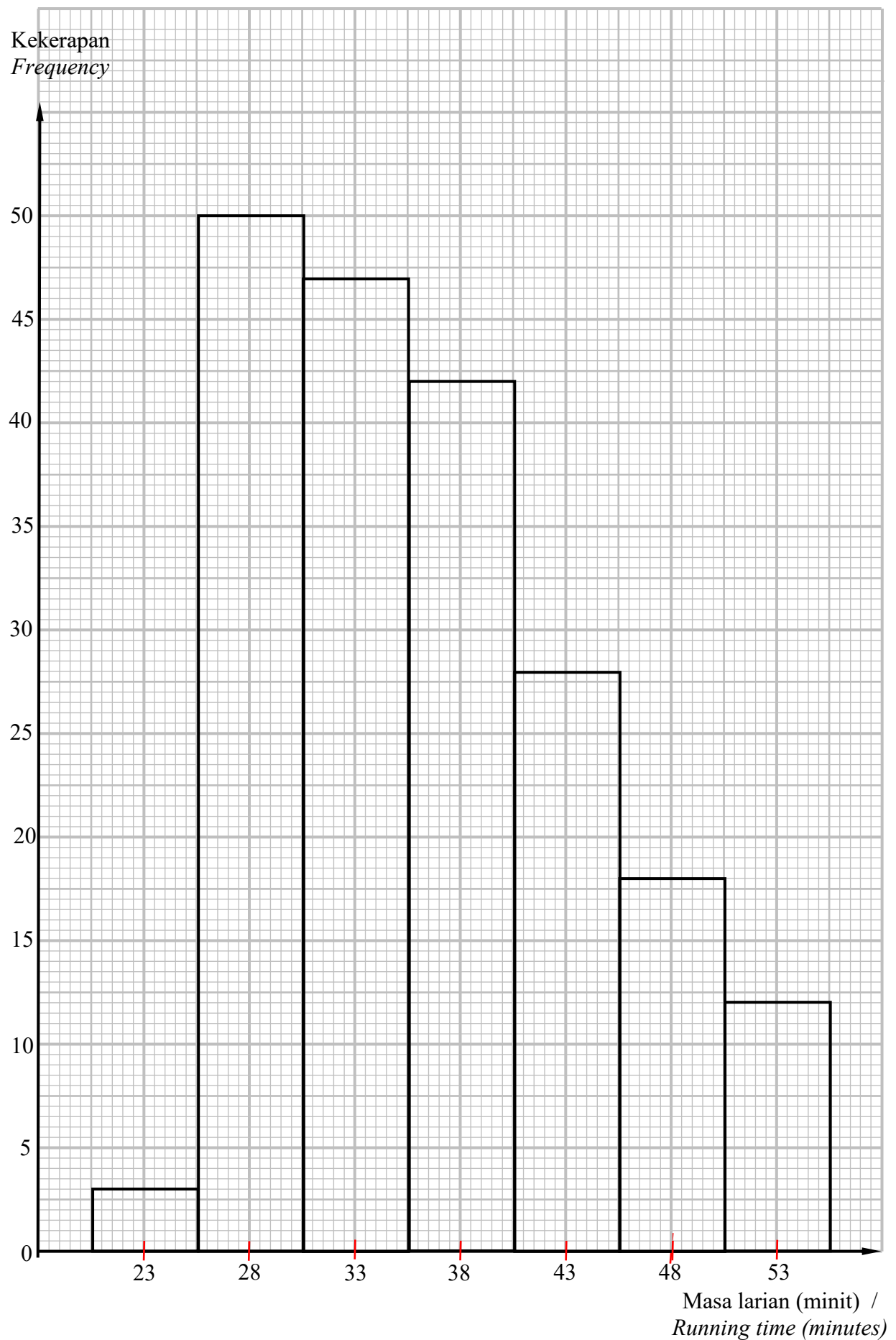
| Soalan | Peraturan Permarkahan                                                                  | Markah   |          |
|--------|----------------------------------------------------------------------------------------|----------|----------|
| 11     | (a) (i) $V = \{ P, Q, R, S, T \}$<br>$n(V) = 5$                                        | U1       |          |
|        | (ii) $E = \{ (P, P), (P, Q), (P, R), (R, Q), (R, S), (S, T), (S, T) \}$<br>$n(E) = 7$  | U1       |          |
|        | (iii) 14                                                                               | U1       |          |
| (b)    | (i)  | W2       |          |
|        | Nota :<br>Terima tanpa pemberat - W1<br><b>Terima tanpa anak panah – W1</b>            |          |          |
|        | (ii) $5.3 + 6 + 6.5 + 7.3 + 7$<br>32.1                                                 | W1<br>V1 | <u>9</u> |
|        | Nota :<br>Terima tanpa kerja - W1V1                                                    |          |          |
| 12     | (a) (i) 3600                                                                           | U1       |          |
|        | (ii) 600                                                                               | U1       |          |
|        | (iii) 2430                                                                             | U1       |          |
| (b)    | $3200 + 400 + 600 - 2430$ @ <b>4200 – 2430</b><br>1770                                 | W1<br>V1 |          |
| (c)    | $1770 \times 4 \times 12$ atau 84960                                                   | W1       |          |
|        | $\frac{90000 - 84960}{4(12)}$ atau $\frac{5040}{48}$ atau setara                       | W2       |          |
|        | Nota :<br>$90000 - 84960$ @ <b>5040</b> beri W1                                        |          |          |
|        | 105                                                                                    | V1       | <u>9</u> |

| Soalan | Peraturan Permarkahan                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Markah         |         |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|---------|
| 13     | (a) $x = 3$<br>$y = 1$<br>$z = 4$<br><br>Nota :<br>$4(3) - 4(1) = 2z$ beri U1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | U1<br>U1<br>U2 |         |
|        | (b) $82x + 100y = 14\ 878$ atau $95x + 86y = 13\ 505$ <u>atau</u> setara<br>$\begin{pmatrix} 82 & 100 \\ 95 & 86 \end{pmatrix} \begin{pmatrix} x \\ y \end{pmatrix} = \begin{pmatrix} 14\ 878 \\ 13\ 505 \end{pmatrix}$ <u>atau</u> setara // or equivalent                                                                                                                                                                                                                                                                                                                                                                                 | U1<br>U1       |         |
|        | $\frac{1}{82(86) - 100(95)} \begin{pmatrix} 86 & -100 \\ -95 & 82 \end{pmatrix} \begin{pmatrix} 14\ 878 \\ 13\ 505 \end{pmatrix}$ <u>atau</u> setara<br><br>Nota :<br><br>1. $\begin{pmatrix} \text{matriks} \\ \text{songsang} \end{pmatrix} \begin{pmatrix} 14\ 878 \\ 13\ 505 \end{pmatrix}$ beri U1<br><br>2. Jangan terima $\begin{pmatrix} \text{matriks} \\ \text{songsang} \end{pmatrix} = \begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix}$ atau<br><br>$\begin{pmatrix} \text{matriks} \\ \text{songsang} \end{pmatrix} = \begin{pmatrix} 82 & 100 \\ 95 & 86 \end{pmatrix}$<br><br>$x = \text{RM } 29.00$<br>$y = \text{RM } 125.00$ | W1             |         |
|        | Nota :<br><br>1. $\begin{pmatrix} x \\ y \end{pmatrix} = \begin{pmatrix} 29 \\ 125 \end{pmatrix}$ beri V1<br><br>2. Jangan terima sebarang penyelesaian yang tidak menggunakan kaedah matriks.<br><br>3. Terima mana-mana dua anu yang berbeza<br><br>4. Terima jawapan tanpa RM                                                                                                                                                                                                                                                                                                                                                            | V1<br>V1       | <hr/> 9 |

| Soalan | Peraturan Permarkahan                                                                                                              | Markah |         |
|--------|------------------------------------------------------------------------------------------------------------------------------------|--------|---------|
| 14     | (a) Bukan teselasi<br><i>Not a tessellation</i>                                                                                    | U1     |         |
|        | Terdapat corak yang tidak berulang<br><i>There is a non recurring shape</i>                                                        | U1     |         |
|        | (b) (i) $x = 1$                                                                                                                    | U1     |         |
|        | (ii) Pembesaran dengan faktor skala $\frac{1}{2}$ @ $k = \frac{1}{2}$ pada pusat (4, 3)                                            | U3     |         |
|        | <i>Enlargement with a scale factor <math>\frac{1}{2}</math> @ <math>k = \frac{1}{2}</math> at the center (4, 3)</i>                |        |         |
|        | <u>Nota :</u><br>1. Pembesaran, faktor skala $\frac{1}{2}$ beri U2<br>2. Pembesaran, pusat (4, 3) beri U2<br>3. Pembesaran beri U1 |        |         |
|        | (c) $58.4 - \left[ \left( \frac{1}{2} \right)^2 \times 58.4 \right]$                                                               | W2     |         |
|        | <u>Nota :</u><br>$\left( \frac{1}{2} \right)^2 \times 58.4$ beri W1                                                                |        |         |
|        | 43.8                                                                                                                               | V1     |         |
|        |                                                                                                                                    |        |         |
|        |                                                                                                                                    |        | <hr/> 9 |

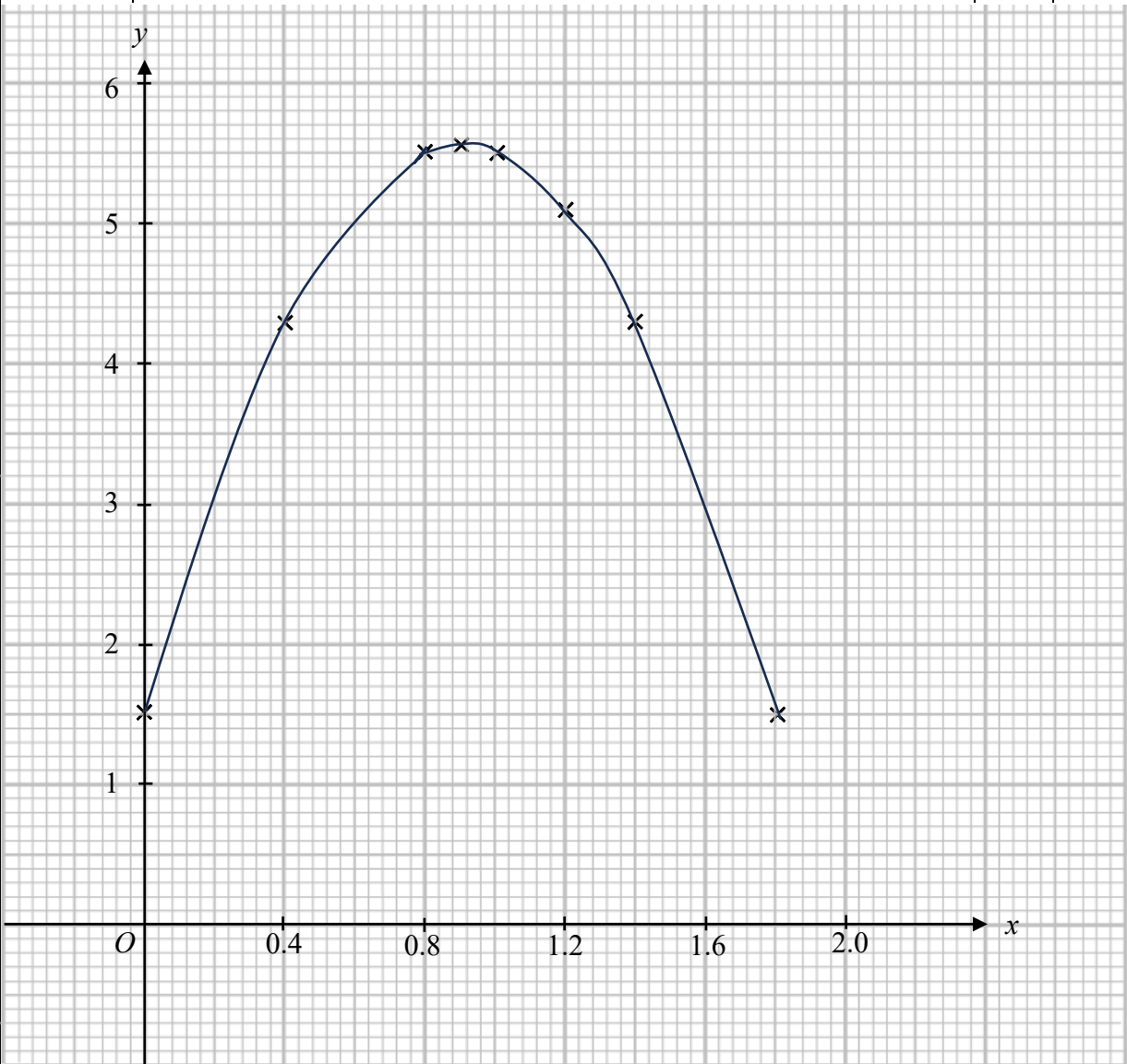
| Soalan | Peraturan Permarkahan                                                                                                 | Markah                                                                                                                                                                                                                                                                                                                           |                               |                                 |   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|--------|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------|---|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|
| 15     | (a)                                                                                                                   | <table><tr><th>Kekerapan<br/><i>Frequency</i></th><th>Titik tengah<br/><i>Midpoint</i></th></tr><tr><td>3</td><td>23</td></tr><tr><td>50</td><td>28</td></tr><tr><td>47</td><td>33</td></tr><tr><td>42</td><td>38</td></tr><tr><td>28</td><td>43</td></tr><tr><td>18</td><td>48</td></tr><tr><td>12</td><td>53</td></tr></table> | Kekerapan<br><i>Frequency</i> | Titik tengah<br><i>Midpoint</i> | 3 | 23 | 50 | 28 | 47 | 33 | 42 | 38 | 28 | 43 | 18 | 48 | 12 | 53 |  |  |
|        | Kekerapan<br><i>Frequency</i>                                                                                         | Titik tengah<br><i>Midpoint</i>                                                                                                                                                                                                                                                                                                  |                               |                                 |   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|        | 3                                                                                                                     | 23                                                                                                                                                                                                                                                                                                                               |                               |                                 |   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|        | 50                                                                                                                    | 28                                                                                                                                                                                                                                                                                                                               |                               |                                 |   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|        | 47                                                                                                                    | 33                                                                                                                                                                                                                                                                                                                               |                               |                                 |   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|        | 42                                                                                                                    | 38                                                                                                                                                                                                                                                                                                                               |                               |                                 |   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|        | 28                                                                                                                    | 43                                                                                                                                                                                                                                                                                                                               |                               |                                 |   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|        | 18                                                                                                                    | 48                                                                                                                                                                                                                                                                                                                               |                               |                                 |   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|        | 12                                                                                                                    | 53                                                                                                                                                                                                                                                                                                                               |                               |                                 |   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|        |                                                                                                                       | Kekerapan semua betul                                                                                                                                                                                                                                                                                                            | U1                            |                                 |   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|        | Titik tengah semua betul                                                                                              | U1                                                                                                                                                                                                                                                                                                                               |                               |                                 |   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| (b)    | Rujuk graf pada halaman 10                                                                                            |                                                                                                                                                                                                                                                                                                                                  |                               |                                 |   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|        | Kedua-dua paksi dilukis dalam arah yang betul dengan skala seragam untuk $23 \leq x \leq 53$ dan $0 \leq y \leq 50$ . | U1                                                                                                                                                                                                                                                                                                                               |                               |                                 |   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|        | Semua bar dilukis dengan betul.                                                                                       | W2                                                                                                                                                                                                                                                                                                                               |                               |                                 |   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|        | <u>Nota:</u><br>5 atau 6 bar histogram dilukis betul W1.                                                              |                                                                                                                                                                                                                                                                                                                                  |                               |                                 |   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|        | Histogram yang betul dan berterusan menggunakan skala yang betul.                                                     | V1                                                                                                                                                                                                                                                                                                                               |                               |                                 |   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|        | Pencong ke kanan.                                                                                                     | U1                                                                                                                                                                                                                                                                                                                               |                               |                                 |   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| (c)    | $\frac{30}{200} \times 100\%$                                                                                         | W1                                                                                                                                                                                                                                                                                                                               |                               |                                 |   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|        | 15%                                                                                                                   | V1                                                                                                                                                                                                                                                                                                                               |                               |                                 |   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|        |                                                                                                                       |                                                                                                                                                                                                                                                                                                                                  | <div>9</div>                  |                                 |   |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |

Graf untuk soalan 15(b)  
*Graph for Question 15(b)*



**BAHAGIAN C**

| Soalan | Peraturan Pemarkahan                                                                                                                                                         | Markah   |    |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----|
| 16     | (a) (i) $k = 72$<br>$T = \frac{72}{X}$                                                                                                                                       | W1       | 3  |
|        |                                                                                                                                                                              | W1       |    |
|        | (ii) $n = 12$                                                                                                                                                                | V1       |    |
|        | (b) $1 \times 4^3 + 2 \times 4^2 + 2 \times 4^1$<br>104<br>$104 - \left( \frac{25}{100} \times 104 \right)$ <u>atau</u> setara                                               | W1       | 4  |
|        | $\begin{array}{r l} 7 & 78 \\ \hline 7 & 11 \\ \hline 7 & 1 \\ \hline & 0 \end{array} \quad \begin{array}{l} \text{Baki} \\ - \quad 1 \\ - \quad 4 \\ - \quad 1 \end{array}$ | W1       |    |
|        | 141 <sub>7</sub>                                                                                                                                                             | V1       |    |
|        | (c) $80\,000 + \left( 80\,000 \times \frac{4.5}{100} \times 8 \right)$ <u>atau</u> / or $80\,000 + \left( 80\,000 \times \frac{5}{100} \times 6 \right)$                     | W1       |    |
|        | $\frac{108800}{8 \times 12}$ <u>atau</u> / or $\frac{104000}{6 \times 12}$                                                                                                   | W1       | 4  |
|        | 1133.33 <u>dan</u> / and 1444.44                                                                                                                                             | W1       |    |
|        | Bank P lebih sesuai<br><i>Bank P is suitable</i>                                                                                                                             | V1       |    |
|        | (d) $x + y = 5$ <u>atau</u> / or $10x + 12y = 56$ <u>atau</u> /or<br>$x = 5 - y$ <u>atau</u> / or $y = 5 - x$ <u>atau</u> setara                                             | W1       | 4  |
|        | $2x = 4$ <u>atau</u> $2y = 6$                                                                                                                                                | W1       |    |
|        | $x = 2$<br>$y = 3$                                                                                                                                                           | V1<br>V1 |    |
|        |                                                                                                                                                                              |          | 15 |

| Soalan                                                                                   | Peraturan Permarkahan | Markah |   |
|------------------------------------------------------------------------------------------|-----------------------|--------|---|
| 17 (a)                                                                                   | (i) 4.3, 1.5<br>(ii)  | W2     |   |
|       |                       |        |   |
| *2 titik diplot dengan betul atau lengkung melalui semua titik untuk $0 \leq x \leq 1.8$ |                       | W2     |   |
| Lengkung yang licin dan bersambung tanpa sebarang garis lurus melalui semua 7 titik.     |                       | V1     |   |
|                                                                                          |                       |        | 5 |

| Soalan | Peraturan Permarkahan                                                 | Markah |          |
|--------|-----------------------------------------------------------------------|--------|----------|
| (b)    | (i) $\frac{4}{3} \times \frac{22}{7} \times 5.5^3$                    | W1     |          |
|        | $\frac{14641}{21}$ <u>atau</u> $697\frac{4}{21}$ <u>atau</u> $697.19$ | V1     |          |
|        | (ii) $4 \times \frac{22}{7} \times 5.5^2$                             | W1     |          |
|        | $\frac{2662}{7}$ <u>atau</u> $380\frac{2}{7}$ <u>atau</u> $380.29$    | V1     | 4        |
| (c)    | $x - y = 20$ <u>atau</u> $x - 2y = 3$ <u>atau</u> setara              | U1     |          |
|        | $y = 17$                                                              | V1     |          |
|        | $x - 17 = 20$                                                         | W1     |          |
|        | $x = 37$                                                              | V1     | 4        |
| (d)    | $\frac{10.6^2 + 10.7^2 + 10.4^2 + 10.3^2}{4} - 10.5^2$                | W1     |          |
|        | 0.025                                                                 | W1     | 2        |
|        |                                                                       |        | <hr/> 15 |

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