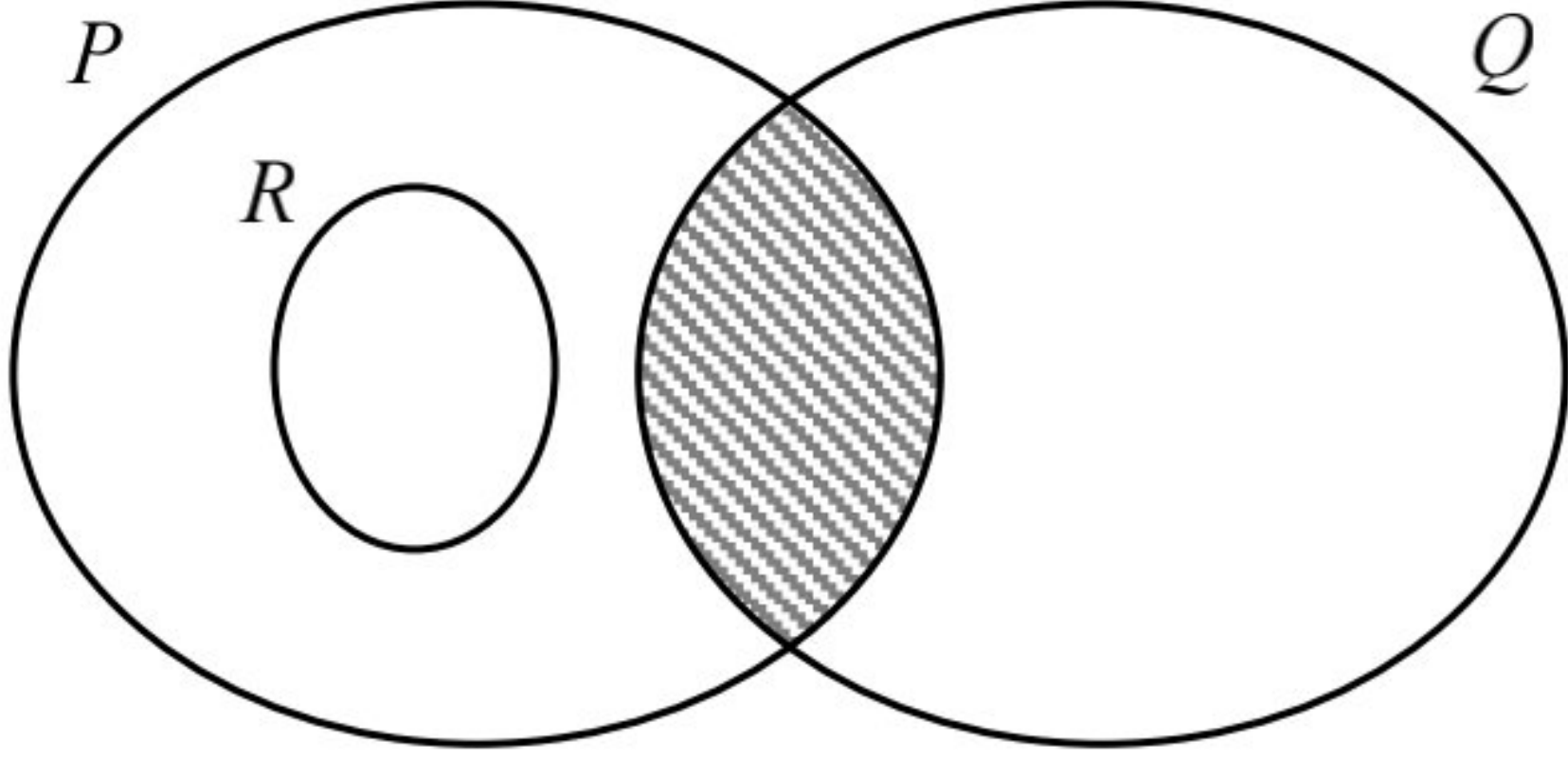
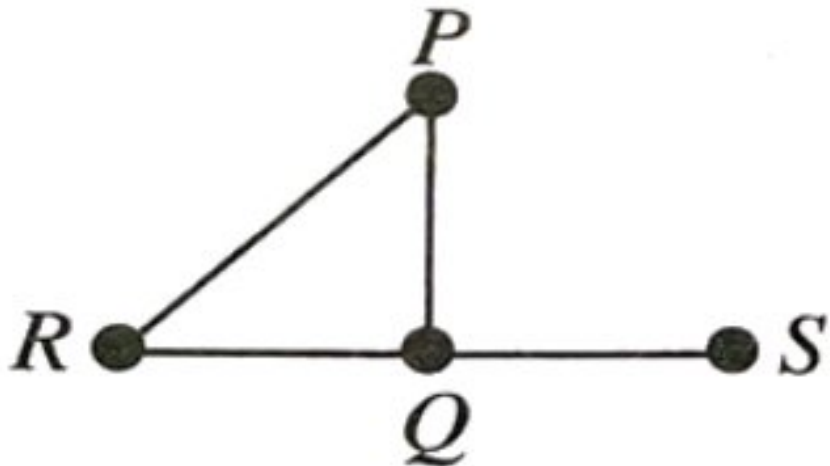
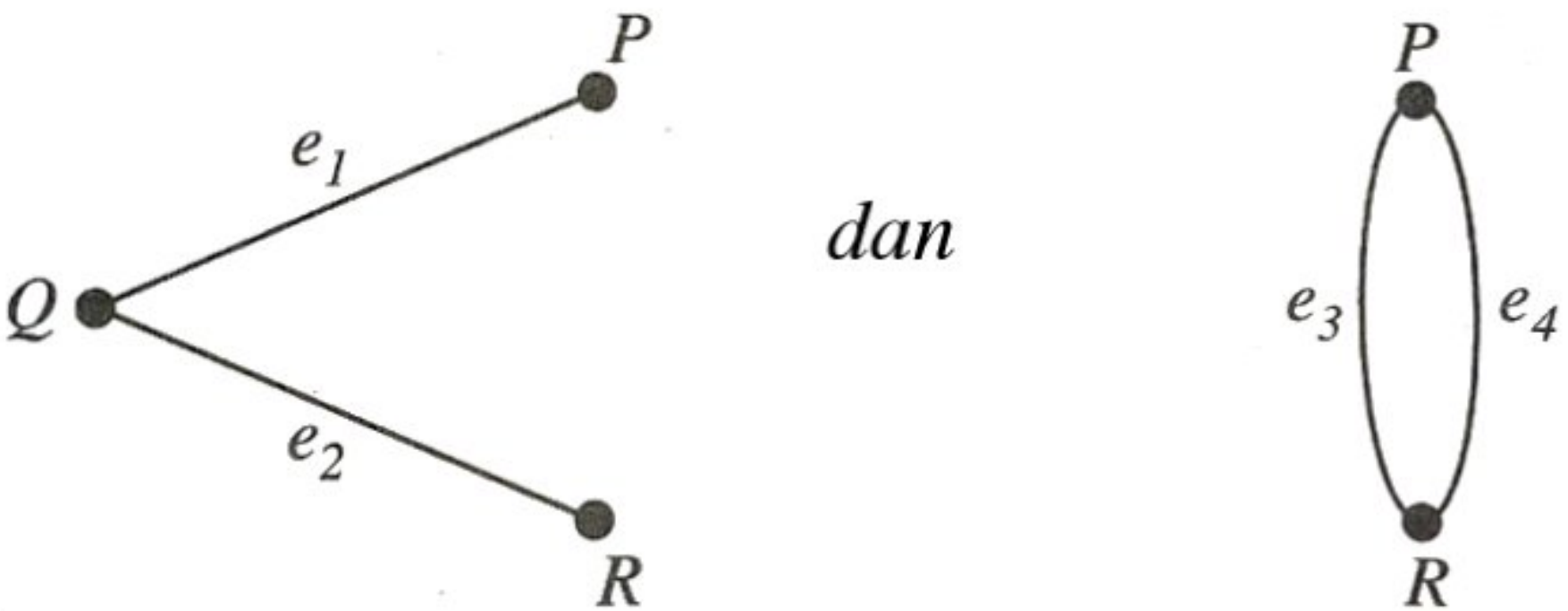
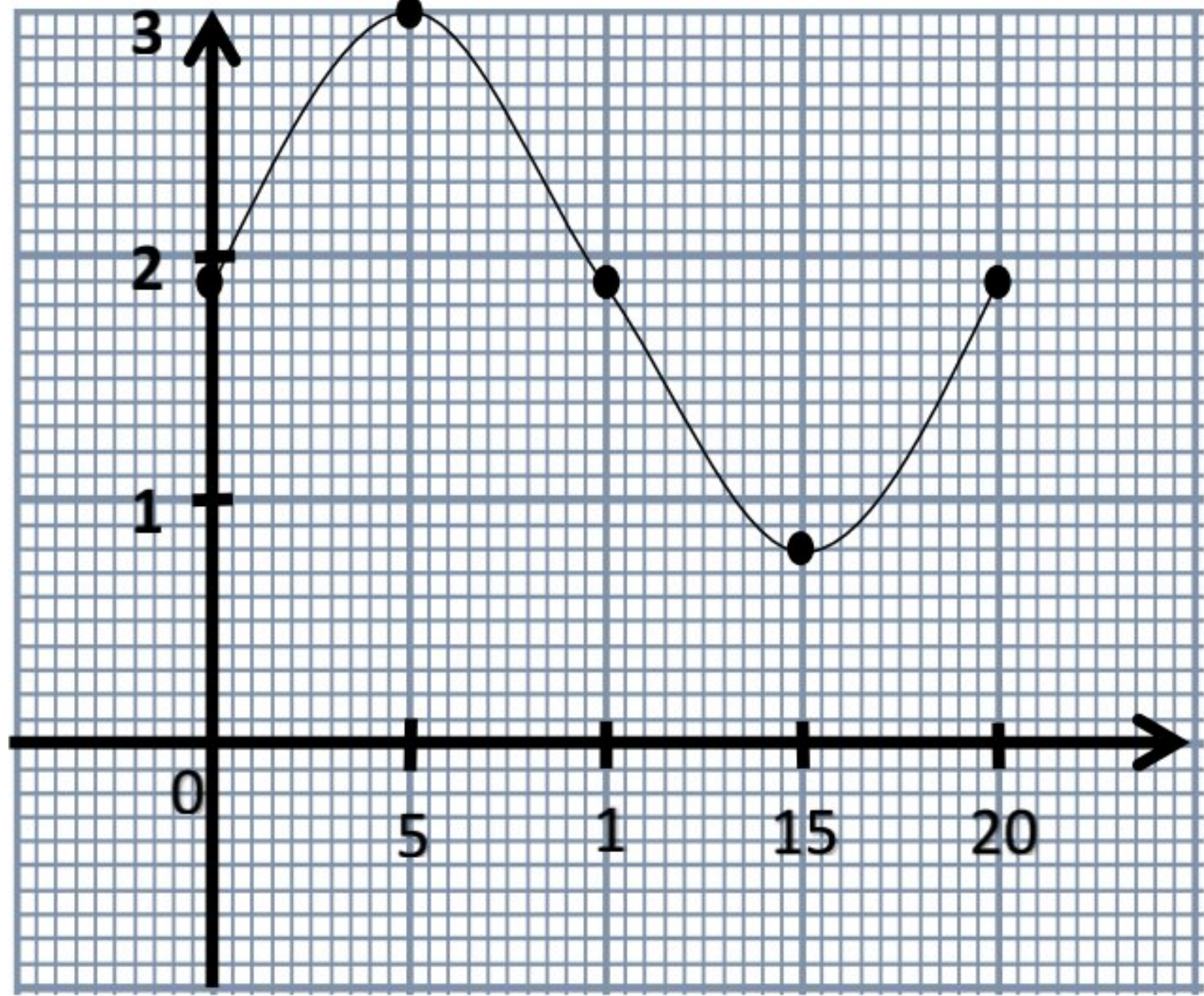


NO SOALAN	SKEMA	SUB MARKAH	JUMLAH MARKAH
1	(a) $22_5$	P1	3
	(b) $p = 2$ $q = 2$	P1 P1	
2	$\frac{4}{100} \times (1400 \times 12) \div 2$ 1400 x 12 atau setara 336	K1 K1 N1	3
3	(a) (i) Palsu // <i>False</i> (ii) Benar // <i>True</i>	P1 P1	5
	(b) 100 ialah integer positif // <i>100 is a positive integer.</i>	P1	
	(c) $n^2 - 5, n = 1, 2, 3, 4, \dots$ <b>Nota:</b> $n^2 - 5$ sahaja, beri K1	K2	
4	(a) $-\frac{1}{3}$ atau setara $8 = -\frac{1}{3}(12) + c$ $y = -\frac{1}{3}x + 12$	P1 K1 N1	5
	(b) $0 = -\frac{1}{3}x + 12$ atau setara 36	K1 N1	
5	(a) $(\frac{120^\circ}{360^\circ} \times 2 \times \frac{22}{7} \times 4) + 4 + 4$ atau setara $\frac{344}{21}$ atau $16\frac{6}{21}$ atau 16.38	K1 N1	5
	(b) $(\frac{120^\circ}{360^\circ} \times \frac{22}{7} \times 4^2)$ atau $(\frac{12^\circ}{360^\circ} \times \frac{22}{7} \times 2.4^2)$ atau setara $(\frac{120^\circ}{360^\circ} \times \frac{22}{7} \times 4^2) - (\frac{12^\circ}{360^\circ} \times \frac{22}{7} \times 2.4^2)$ atau setara $\frac{5632}{525}$ atau $10\frac{382}{525}$ atau 10.73	K1 K1 N1	



<p><b>6</b></p>	$T \propto \frac{U^3}{\sqrt{W}}$ $T = \frac{kU^3}{\sqrt{W}}$ $k = \frac{5}{9} \text{ atau } 0.56$ $x = \frac{256}{9} \text{ atau } 28\frac{4}{9} \text{ atau } 28.44$ $y = 9$ $z = 400$	<p>K1 N1 N1 N1</p>	<p><b>4</b></p>
<p><b>7</b></p>	<p>(a) &amp; (b)</p>  <p>R dan Q betul dilihat</p> <p><b>Nota:</b> R atau Q betul dilihat beri P1</p> <p><math>P \cap Q</math> dilorek betul {Pembaris, Pemadam}</p>	<p>P2     P1 P1</p>	<p><b>4</b></p>
<p><b>8</b></p>	<p>(a)</p>  <p>atau setara</p> <p><b>Nota:</b> P1 – 1 kesilapan P0 – 2 kesilapan dan ke atas</p>	<p>P2</p>	
	<p>(b)</p>  <p><b>Nota:</b> Terima jawapan lain yang munasabah. <i>Accept other possible answers.</i></p>	<p>P2</p>	<p><b>4</b></p>



<p><b>9</b></p> <p>julat = 17</p> <p>julat antara kuartil = <math>24 - 11</math> = 13</p> <p><b>Nota:</b></p> <p>Terima jawapan betul tanpa kerja untuk K1N1</p>	<p>P1</p> <p>K1</p> <p>N1</p>	<p><b>3</b></p>
<p><b>10</b></p> <p><math>56 \times 56 \times 30</math></p> <p><math>242 \left( \frac{22}{7} \times 2.5^2 \times 12 \right)</math></p> <p><math>(56 \times 56 \times 30) - 242 \left( \frac{22}{7} \times 2.5^2 \times 12 \right)</math></p> <p><math>37037.14 \text{ cm}^3</math></p>	<p>K1</p> <p>K1</p> <p>K1</p> <p>N1</p>	<p><b>4</b></p>
<p><b>11</b></p> <p>(a)</p> <p>Tinggi / Height (cm)</p>  <p>Semua 5 plot betul</p> <p>Graf lengkung halus dilukis betul</p> <p>Jenis fungsi trigonometri = graf sin</p> <p>Amplitud = 19</p>	<p>K1</p> <p>N1</p> <p>P1</p> <p>N1</p>	<p><b>9</b></p>
<p>(b)</p> <p>(i) <math>\sqrt{3^2 + 1.6^2}</math> <u>atau</u> setara</p> <p>3.4</p> <p>(ii) <math>\frac{3}{3.4}</math> <u>atau</u> <math>\frac{15}{17}</math> <u>atau</u> 0.8824 <u>atau</u> setara</p> <p>(iii) <math>\sin^{-1}\left(\frac{3}{3.4}\right)</math> <u>atau</u> <math>\sin^{-1}\left(\frac{15}{17}\right)</math> <u>atau</u> <math>\sin^{-1}(0.8824)</math> <u>atau</u> setara</p> <p><math>61.93^\circ</math> <u>atau</u> <math>61^\circ 56'</math></p>	<p>K1</p> <p>N1</p> <p>P1</p> <p>K1</p> <p>N1</p>	



<p>12</p> <p>a) <math>x + y = 40</math> <i>atau</i> <math>3x + 2y = 105</math> <i>atau</i> setara</p> $\begin{bmatrix} 1 & 1 \\ 3 & 2 \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} 40 \\ 105 \end{bmatrix}$ $\frac{1}{1(2) - (1)(3)} \begin{pmatrix} 2 & -1 \\ -3 & 1 \end{pmatrix} \begin{pmatrix} 40 \\ 105 \end{pmatrix} \text{ atau setara}$ <p><b>Nota:</b></p> <ol style="list-style-type: none"> <li><math>\begin{pmatrix} \text{matriks} \\ \text{songsang} \end{pmatrix} \begin{pmatrix} 40 \\ 105 \end{pmatrix}</math>, beri K1</li> <li>Jangan terima <math>\begin{pmatrix} \text{matriks} \\ \text{songsang} \end{pmatrix} = \begin{pmatrix} 1 &amp; 0 \\ 0 &amp; 1 \end{pmatrix}</math> <i>atau</i></li> </ol> $\begin{pmatrix} \text{matriks} \\ \text{songsang} \end{pmatrix} = \begin{pmatrix} 1 & 1 \\ 3 & 2 \end{pmatrix}$ <p><math>x = 25</math></p> <p><math>y = 15</math></p> <p><b>Nota:</b></p> <ol style="list-style-type: none"> <li><math>\begin{pmatrix} x \\ y \end{pmatrix} = \begin{pmatrix} 25 \\ 15 \end{pmatrix}</math> sebagai jawapan akhir, beri N1 sahaja.</li> <li>Jangan terima sebarang penyelesaian yang tidak menggunakan kaedah matriks.</li> <li>Terima mana-mana dua anu yang berbeza.</li> </ol>	<p>P1</p> <p>K1</p> <p>K1</p> <p>N1</p> <p>N1</p>	
<p>(b)</p> <p>Jumlah saham Encik Lee = <math>\frac{RM20\,000}{RM2.00} = 10\,000</math></p> <p>Kos purata seunit saham Encik Lee = <math>\frac{RM20\,000}{10\,000} = RM2.00</math></p> <p><i>atau</i></p> <p>Jumlah saham Encik Azam</p> $= \frac{4000}{2.00} + \frac{4000}{1.80} + \frac{4000}{1.60} + \frac{4000}{2.10} + \frac{4000}{2.00} = 10626 \text{ atau setara}$ <p>Kos purata seunit saham Encik Azam = <math>\frac{RM20\,000}{10626} = RM1.88</math></p> <p>Pelabur yang bijak ialah Encik Azam</p> <p>Kos purata seunitnya lebih rendah</p>	<p>K1</p> <p>N1</p> <p>N1</p> <p>N1</p>	



13	<p>(a)</p> <p>{(A , F), (A , C), (A , J), (A , N), (A , M), (F , C), (F , J), (F , N), (F , M), (C , J), (C , N), (C , M), (J , N), (J , M), (N , M)}</p> <p><b>Nota:</b></p> <p>Terima 2 kesalahan untuk P1</p>	P2	
	<p>(b) (i)</p> <p>{(A , F), (A , C), (A , N), (A , M), (F , J), (C , J), (J , N), (J , M)}</p> <p><math>\frac{8}{15}</math></p> <p>(b) (ii)</p> <p>{(A , F), (A , C), (F , C), (J , N), (J , M), (N , M)}</p> <p><math>\frac{6}{15}</math> atau <math>\frac{2}{5}</math></p> <p>(b) (iii)</p> <p>{ (F , C), (F , J), (F , N), (C , J), (C , N), (J , N)}</p> <p><math>\frac{6}{15}</math> atau <math>\frac{2}{5}</math></p> <p><b>Nota:</b></p> <p>Terima jawapan betul tanpa kerja untuk K1N1</p>	<p>K1</p> <p>N1</p> <p>K1</p> <p>N1</p> <p>K1</p> <p>N1</p>	8
14	<p>(a)</p> <p><math>y \geq -\frac{1}{2}x + 3</math> <u>atau</u> setara</p> <p><math>x + y \leq 6</math> <u>atau</u> setara</p> <p><math>y &lt; 6</math></p> <p>(b) (i)</p> <p><math>x + y \leq 40</math> <u>atau</u> setara</p> <p><math>20x + 10y \geq 500</math> <u>atau</u> setara</p>	<p>P1</p> <p>P1</p> <p>P1</p> <p>P1</p> <p>P1</p> <p>P1</p>	9



b) (ii)

Rujuk graf di bawah.

Kedua-dua paksi dilukis dalam arah yang betul dengan skala seragam untuk ikut skala dan seragam untuk  $0 \leq x \leq 40$  dan  $0 \leq y \leq 50$

Garis lurus  $x + y \leq 40$  dilukis dengan betul

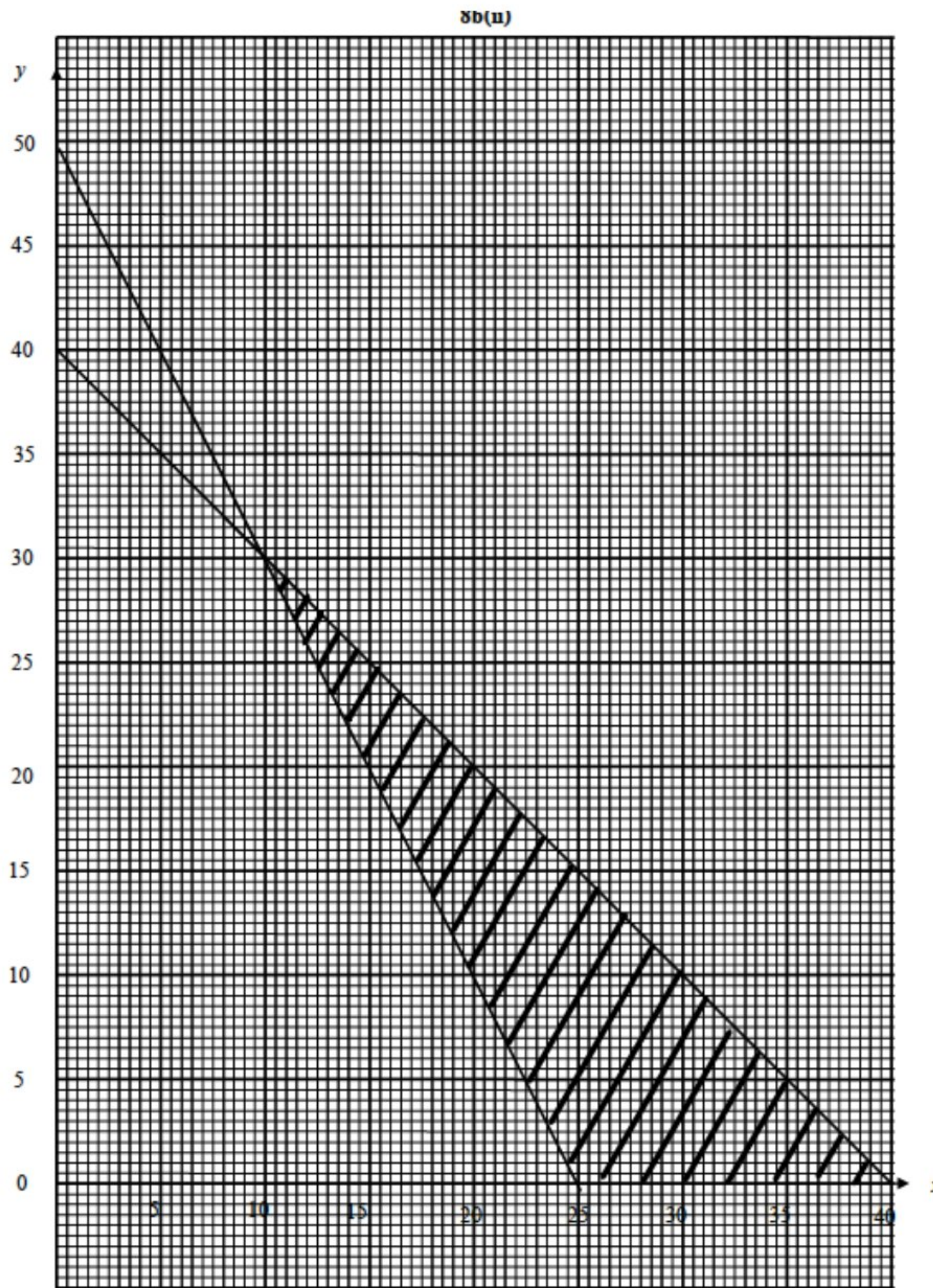
Garis lurus  $20x + 10y \geq 500$  dilukis dengan betul

Rantau yang memenuhi ketaksamaan linear dilorek dengan betul

K1

K1

K1



(b) (iii)

RM500

K1



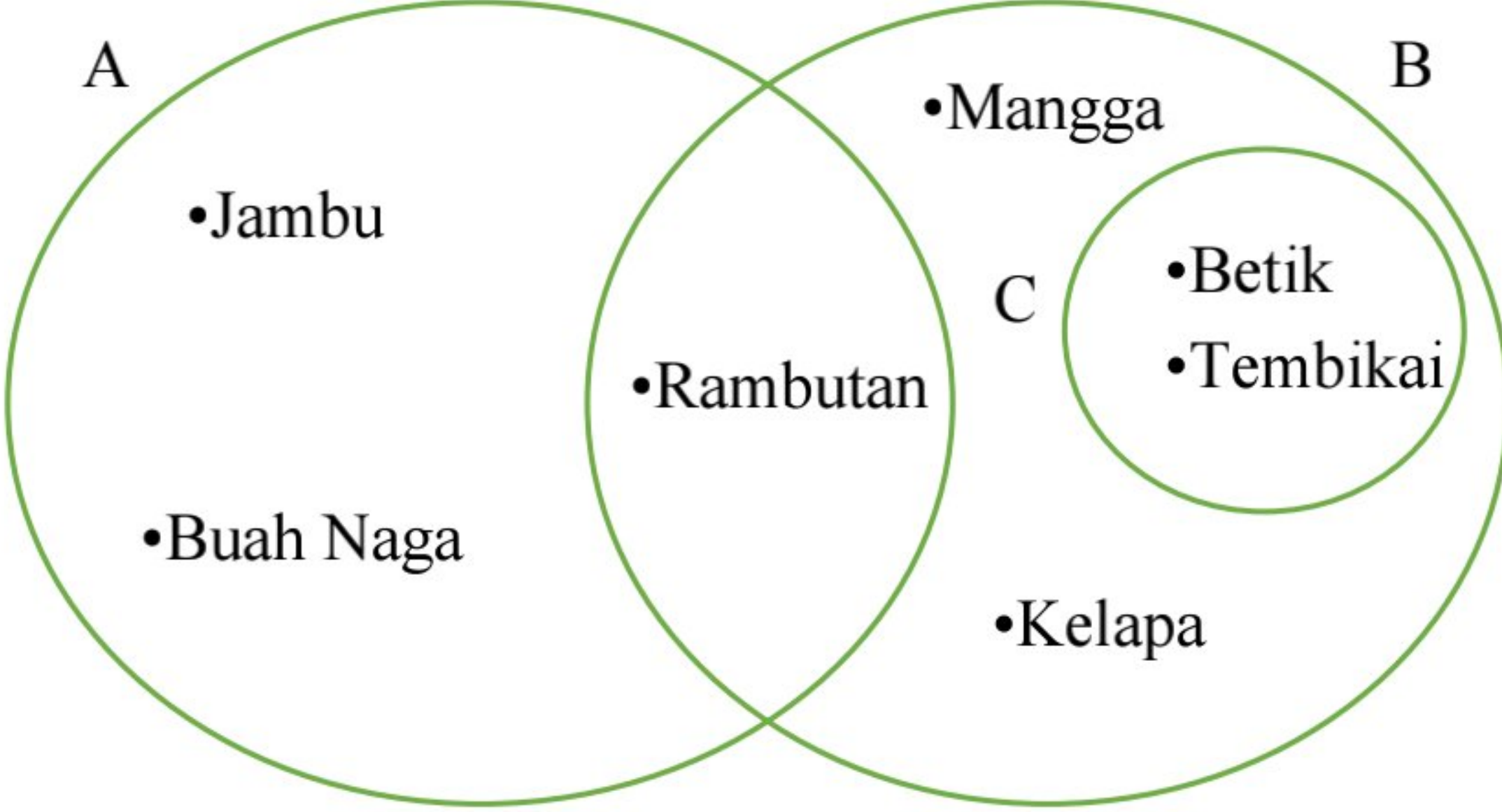
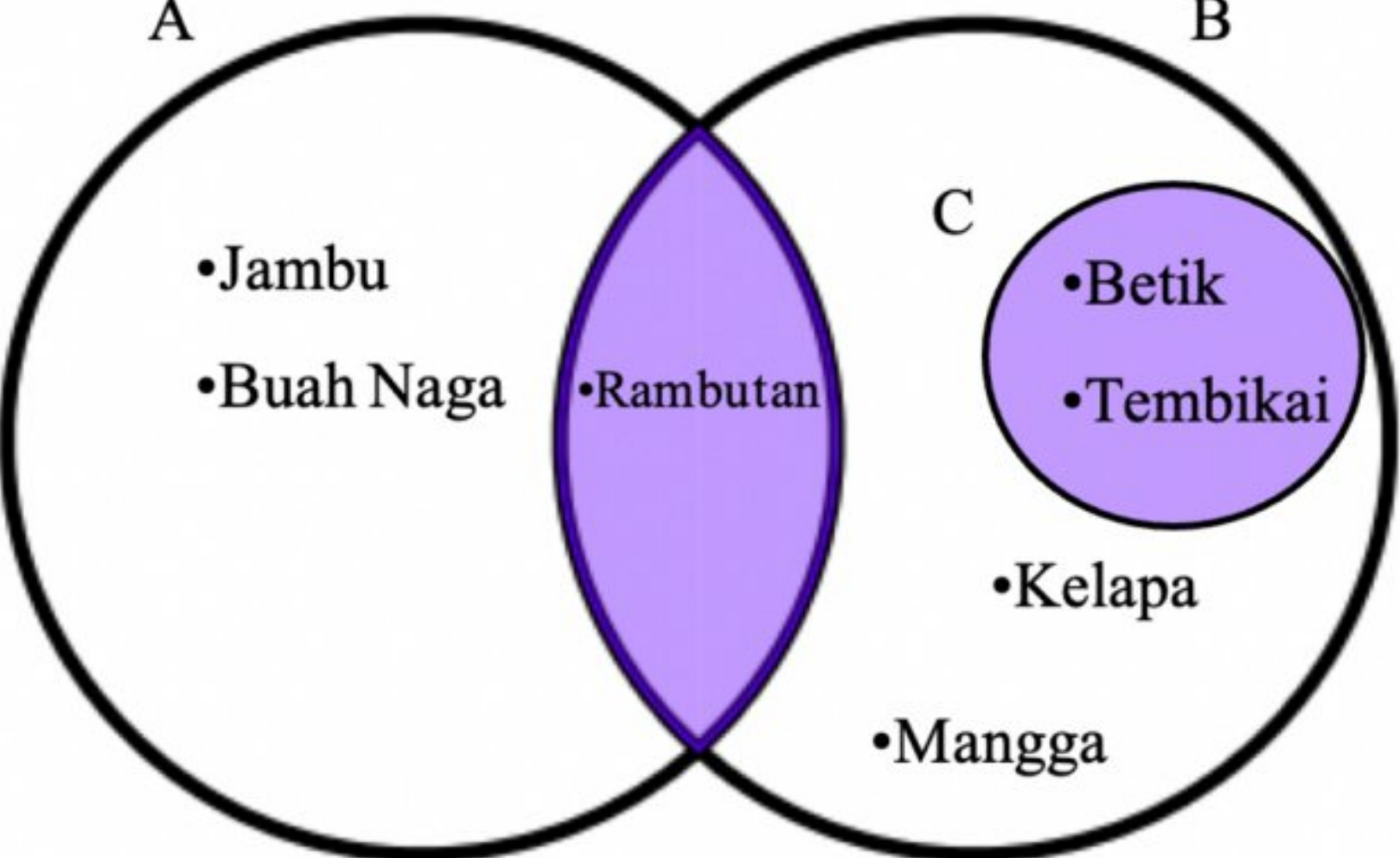




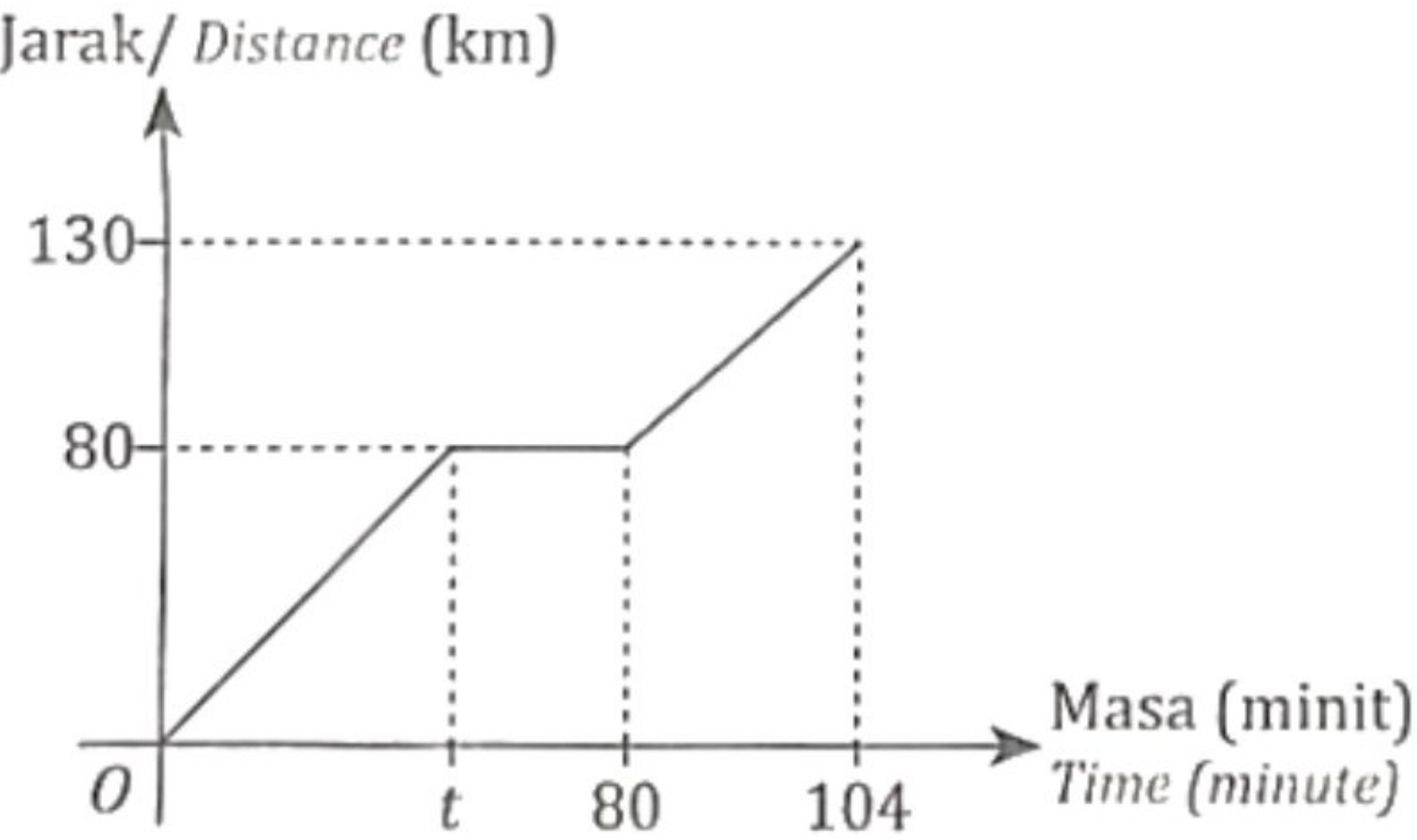
<b>16</b>	(a) (i)																																
	$\left[ RM339.10 + RM26 \times \left( \frac{60000-1000}{1000} \right) \right] \text{ atau } RM1\ 873.10 \text{ atau setara}$	K1																															
	$RM1\ 873.10 - \left( RM1\ 873.10 \times \frac{30}{100} \right) \text{ atau } RM561.93 \text{ atau setara}$	K1																															
	RM1311.17	N1																															
	<b>Nota:</b>																																
	$\frac{70}{100} \times \left[ RM339.10 + RM26 \times \left( \frac{60000-1000}{1000} \right) \right] \text{ atau setara beri}$																																
	K1K1																																
	(a) (ii)																																
	$RM151.20 - RM151.20 \times \frac{30}{100}$	K1																															
	RM 105.84	N1																															
	<b>Nota:</b>																																
	$\frac{70}{100} \times RM151.20 \text{ beri K1}$																																
	(b)																																
	$RM200 + (1\ 799 - 1\ 600) \times RM0.40$	K2																															
	RM 279.60	N1																															
	<b>Nota:</b>																																
	$(1\ 799 - 1\ 600) \times RM0.40 \text{ atau setara beri K1}$																																
	(c) (i)																																
	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th></th> <th>Jarak (km) <i>Distance (km)</i></th> <th>Kekerapan, <i>f</i> <i>Frequency, f</i></th> <th><i>fx</i></th> <th><i>fx<sup>2</sup></i></th> </tr> </thead> <tbody> <tr> <td>I</td> <td>1 - 10</td> <td>3</td> <td>16.5</td> <td>90.75</td> </tr> <tr> <td>II</td> <td>11 - 20</td> <td>8</td> <td>124.0</td> <td>1 922</td> </tr> <tr> <td>III</td> <td>21 - 30</td> <td>13</td> <td>331.5</td> <td>8453.25</td> </tr> <tr> <td>IV</td> <td>31 - 40</td> <td>3</td> <td>106.5</td> <td>3780.75</td> </tr> <tr> <td>V</td> <td>41 - 50</td> <td>3</td> <td>136.5</td> <td>6210.75</td> </tr> </tbody> </table>		Jarak (km) <i>Distance (km)</i>	Kekerapan, <i>f</i> <i>Frequency, f</i>	<i>fx</i>	<i>fx<sup>2</sup></i>	I	1 - 10	3	16.5	90.75	II	11 - 20	8	124.0	1 922	III	21 - 30	13	331.5	8453.25	IV	31 - 40	3	106.5	3780.75	V	41 - 50	3	136.5	6210.75		
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	Kekerapan : III hingga V	P1																															
	<i>fx</i> : III hingga V	P1																															
	<i>fx<sup>2</sup></i> : III hingga V	P1																															
	(c) (ii)																																
	$\frac{715}{30} \text{ atau } 23.83$	N1																															
	$\frac{20\ 457.5}{30} - \left( \frac{715}{30} \right)^2 \text{ atau setara}$	K1																															
	113.89 atau 114.05 atau setara	N1																															
	10.67 atau 10.68 atau setara	N1																															

15



<p>17(a)(i)</p>	<p>(a) (i)</p>  <p><b>Nota:</b>  <i>B atau C</i> betul dilihat beri P1</p> <p>(a) (ii)  <math>(A \cap B) = \{\text{Rambutan}\}</math></p> <p>(a) (iii)</p> 	<p>P2</p> <p>P1</p> <p>N1</p>	<p>15</p>
<p>(b)</p>	<p><math>x^2 - h - 42 = 0</math>  <math>(x - 7)(x + 6) = 0</math>  <math>x = 7</math> atau <math>x = -6</math></p> <p>Harga kos 1 kg manga tanpa termasuk sebarang keuntungan ialah RM7.</p>	<p>K1</p> <p>K1</p> <p>N1</p>	



<p>c) (i)</p> $\frac{80-0}{t-0} = \frac{96}{60}$ $\frac{80}{t} = 1.6$ $t = 50$ <p>(c) (ii)</p> <p>80 minit – 50 minit = 30 minit</p> <p>(c) (iii)</p> $\frac{130}{T} = \frac{75}{60} \text{ atau } T = \frac{130}{1.25} \text{ atau } T = 104$ <p>Jarak/ Distance (km)</p>  <p>(c) (iv)</p> <p>9:30 pagi + 104 minit</p> <p>11:14 pagi</p>	<p>K1</p> <p>K1</p> <p>N1</p> <p>N1</p> <p>K1</p> <p>N1</p> <p>K1</p> <p>N1</p>	
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**PERATURAN PEMARKAHAN TAMAT**