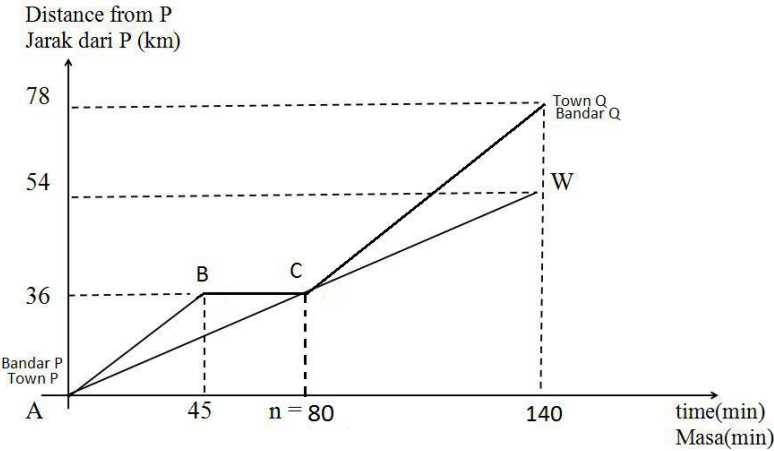


SULIT

<p>6(a)</p> <p>(i) False // <i>Palsu</i></p> <p>(ii) True // <i>Benar</i></p> <p>(b)</p> <p>(i) I_1: If $G \cap H = G$, then $G \subset H$ // <i>Jika $G \cap H = G$, maka $G \subset H$.</i></p> <p>(ii) I_2: If $G \subset H$, then $G \cap H = G$ // <i>Jika $G \subset H$, maka $G \cap H = G$</i></p> <p>(c)</p> <p>Geometrical solid R is a cube // <i>Pepejal geometri R adalah kubus.</i></p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>	<p>5</p>
<p>7(a)</p> <p>$m = 4$</p> <p>$4 = *4 (6) + c$ or $c = -20$</p> <p>$y = 4x - 20$</p> <p>(b)</p> <p>$0 = 4x - 20$</p> <p>$x = 5$</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>	<p>5</p>
<p>8(a)</p>  <p>(b)</p> $\frac{78 - 0}{\left(\frac{140 - 0}{60}\right)}$ $\frac{234}{7} \text{ or } 33\frac{3}{7} \text{ or } 33.43$ <p>(c)</p> <p>80 minutes/80 minit</p>	<p>1,1</p> <p>1</p> <p>1</p> <p>1</p>	<p>5</p>
<p>9(a)</p> <p>{{(A,Z), (A,S), (A,D), (F,Z), (F,S), (F, D), (E,Z), (E,S), (E,D), (L,Z), (L,S), (L,D)}}</p> <p>Note: Allow two mistakes for 1 mark</p> <p>(b)</p> <p>{{(A, Z), (A, S), (A, D), (F, D), (E, D), (L, D)}}</p> <p>$\frac{6}{12}$ or $\frac{1}{2}$ or equivalent</p> <p>(c)</p> <p>{{(A, S), (A, D), (F, Z), (F, S), (F, D), (E, Z), (E, S), (E, D), (L, S), (L, D)}}</p> <p>$\frac{10}{12}$ or $\frac{5}{6}$ or equivalent</p>	<p>2</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>	<p>6</p>

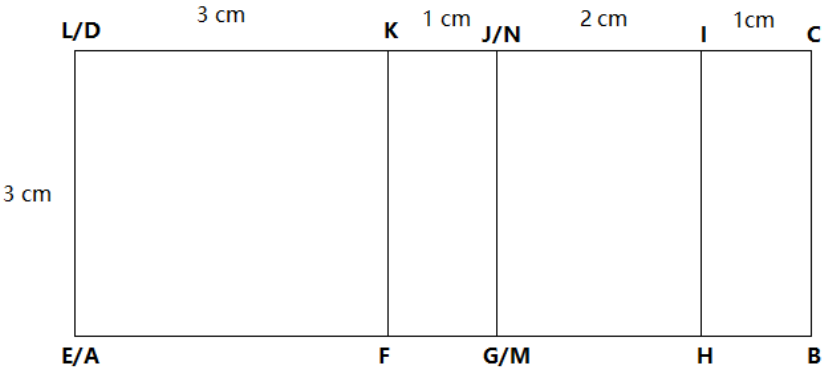
SULIT

10	$\frac{2}{3} \times \frac{22}{7} \times 28^3$ $\left(2 \times \frac{22}{7} \times 21^2 \times 14 \right)$ $\left(\frac{2}{3} \times \frac{22}{7} \times 28^3 \right) - \left(2 \times \frac{22}{7} \times 21^2 \times 14 \right)$ $\frac{21560}{3} \text{ or } 7186\frac{2}{3} \text{ or } 7186.67 \text{ cm}^3$	1 1 1 1	4
11 (a)	$\frac{180}{360} \times 2 \times \frac{22}{7} \times \left(\frac{17}{2}\right) \text{ or } \frac{180}{360} \times 2 \times \frac{22}{7} \times 17 \text{ or equivalent}$ $\frac{180}{360} \times 2 \times \frac{22}{7} \times \left(\frac{17}{2}\right) + \frac{180}{360} \times 2 \times \frac{22}{7} \times \left(\frac{17}{2}\right) + 17$ $\frac{680}{7} \text{ or } 97\frac{1}{7} \text{ or } 97.14$	1 1 1	3
(b)	$\frac{180}{360} \times \frac{22}{7} \times 17^2 \text{ or } \frac{180}{360} \times \frac{22}{7} \times \left(\frac{17}{2}\right)^2 \text{ or equivalent}$ $\frac{180}{360} \times \frac{22}{7} \times 17^2 - \frac{180}{360} \times \frac{22}{7} \times \left(\frac{17}{2}\right)^2$ $\frac{9537}{28} \text{ or } 340\frac{17}{28} \text{ or } 340.6$	1 1 1	3 6
12(a)	26, 17	1,1	
(b)	<p><u>Graph</u></p> <p>Axes drawn in the correct directions with uniform scales for $-3 \leq x \leq 4$ and $-46 \leq y \leq 45$</p> <p>All 8 points and *2 points correctly plotted or curve passes through all the points for $-3 \leq x \leq 4$ and $-46 \leq y \leq 45$</p> <p>Note</p> <ol style="list-style-type: none"> 9 or 8 points correctly plotted, award 1 mark Ignore curve out of range <p>Smooth curves and continuous curve without any straight line and passing all 9 correct points using the given scales for $-3 \leq x \leq 4$ and $-46 \leq y \leq 45$</p>	1 2 1	
(c)	<p>(i) $21 \leq y \leq 22$</p> <p>(ii) $3.6 \leq x \leq 3.7$</p>	1 1	
(d)	<p>Straight line $y = 10 - 12x$ correctly drawn</p> <p>Note: Identify equation $18 - x^3 = 10 - 12x$ or $y = 10 - 12x$ award 1 mark</p> <p>$-0.75 \leq x \leq -0.65, \quad 3.75 \leq x \leq 3.85$</p>	2 1,1	

SULIT

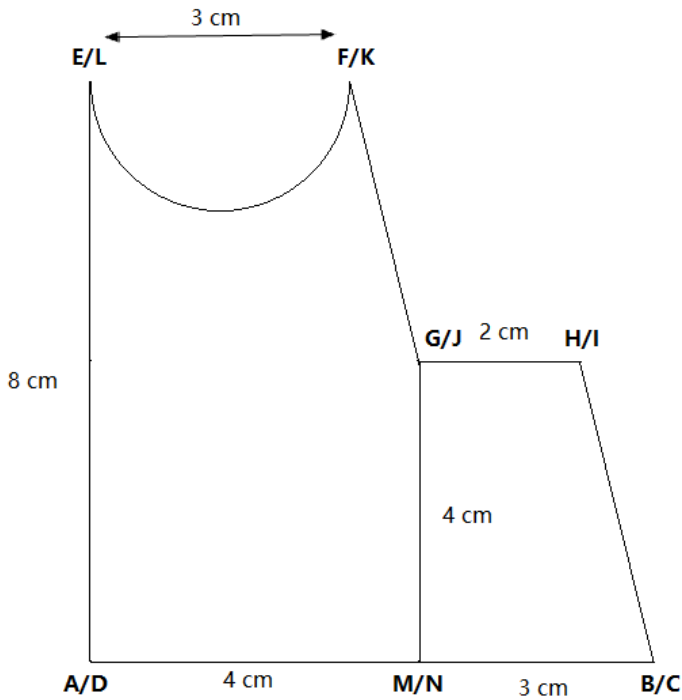
<p>13(a)</p> <p>(i) (1, -10) Note: (2, -6) seen, award 1 mark</p> <p>(ii) (-6, -6) Note: (-5, -2) seen, award 1 mark</p> <p>(b)(i) (a) Reflection in line y – axis or equivalent Note: Reflection only, award 1 mark</p> <p>(b) Enlargement, scale factor, $-\frac{1}{2}$, centre (-1, -1) Note: 1. Enlargement, scale factor $-\frac{1}{2}$, or Enlargement, centre (-1, -1), award 2 marks. 2. Enlargement only, award 1 mark.</p> <p>(ii) $\frac{12}{\left(\frac{1}{2}\right)^2} - 12$</p> <p>Note: $\frac{12}{\left(\frac{1}{2}\right)^2}$ award 1 mark</p> <p>36</p>		<p>2</p> <p>2</p> <p>2</p> <p>3</p> <p>2</p> <p>1</p>	<p>4</p> <p>5</p> <p>3</p> <p>12</p>																																													
<p>14(a)</p>	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 20%;">Length (cm) <i>Panjang (cm)</i></th> <th style="width: 20%;">Frequency <i>Kekerapan</i></th> <th style="width: 20%;">Upper boundary <i>Sempadan atas</i></th> <th style="width: 20%;">Cumulative frequency <i>Kekerapan longgokan</i></th> <th style="width: 20%;"></th> </tr> </thead> <tbody> <tr> <td>35 - 39</td> <td>0</td> <td>39.5</td> <td>0</td> <td>I</td> </tr> <tr> <td>40 - 44</td> <td>3</td> <td>44.5</td> <td>3</td> <td>II</td> </tr> <tr> <td>45 - 49</td> <td>9</td> <td>49.5</td> <td>12</td> <td>III</td> </tr> <tr> <td>50 - 54</td> <td>14</td> <td>54.5</td> <td>26</td> <td>IV</td> </tr> <tr> <td>55 - 59</td> <td>18</td> <td>59.5</td> <td>44</td> <td>V</td> </tr> <tr> <td>60 - 64</td> <td>9</td> <td>64.5</td> <td>53</td> <td>VI</td> </tr> <tr> <td>65 - 69</td> <td>5</td> <td>69.5</td> <td>58</td> <td>VII</td> </tr> <tr> <td>70 - 74</td> <td>2</td> <td>74.5</td> <td>60</td> <td>VIII</td> </tr> </tbody> </table> <p>Length: II – VIII Frequency: II – VIII Upper boundary: I – VIII Cumulative Frequency: I – VIII</p> $\frac{42 \times 3 + 47 \times 9 + 52 \times 14 + 57 \times 18 + 62 \times 9 + 67 \times 5 + 72 \times 2}{3 + 9 + 14 + 18 + 9 + 5 + 2}$ <p>Note: Allow two mistakes for midpoint or 2 mistakes in product of midpoint and frequency for 1 mark</p> <p>55.67</p>	Length (cm) <i>Panjang (cm)</i>	Frequency <i>Kekerapan</i>	Upper boundary <i>Sempadan atas</i>	Cumulative frequency <i>Kekerapan longgokan</i>		35 - 39	0	39.5	0	I	40 - 44	3	44.5	3	II	45 - 49	9	49.5	12	III	50 - 54	14	54.5	26	IV	55 - 59	18	59.5	44	V	60 - 64	9	64.5	53	VI	65 - 69	5	69.5	58	VII	70 - 74	2	74.5	60	VIII	<p>I</p> <p>II</p> <p>III</p> <p>IV</p> <p>V</p> <p>VI</p> <p>VII</p> <p>VIII</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>2</p> <p>1</p>	<p>4</p> <p>3</p>
Length (cm) <i>Panjang (cm)</i>	Frequency <i>Kekerapan</i>	Upper boundary <i>Sempadan atas</i>	Cumulative frequency <i>Kekerapan longgokan</i>																																													
35 - 39	0	39.5	0	I																																												
40 - 44	3	44.5	3	II																																												
45 - 49	9	49.5	12	III																																												
50 - 54	14	54.5	26	IV																																												
55 - 59	18	59.5	44	V																																												
60 - 64	9	64.5	53	VI																																												
65 - 69	5	69.5	58	VII																																												
70 - 74	2	74.5	60	VIII																																												

SULIT

<p>14 (b)</p>	<p>Refer to the graph / <i>Rujuk kertas graf</i> Axes drawn in the correct direction, uniform scale for <i>Paksi dilukis dengan arah yang betul, skala seragam</i> $39.5 \leq x \leq 74.5$ and $0 \leq y \leq 60$</p> <p>*8 points are correctly plotted *8 titik ditanda dengan betul</p> <p>Note : 6 or 7 points correctly plotted, award K1 6 atau 7 titik ditanda dengan betul, beri K1</p> <p>Smooth and continuous curve without any straight line passes through all 8 correct points for $39.5 \leq x \leq 74.5$. <i>Lengkungan licin dan berterusan tanpa garis lurus dan melalui 8 titik yang betul bagi $39.5 \leq x \leq 74.5$.</i></p> <p>55.5</p>	<p>1</p> <p>2</p> <p>1</p> <p>1</p>	<p>4</p> <p>1</p> <p>12</p>
<p>15(a)</p>	 <p>Correct shape with square EFKL and rectangle FGJK, GHIJ, and HBCI. $LK = EF > JI = GH > KJ = IC = FG = HB$ The measurement is correct to ± 0.2 cm (one way) and the angles at all vertices of the rectangles are $90^\circ \pm 1^\circ$</p>	<p>1</p> <p>1</p> <p>1</p>	<p>3</p>

SULIT

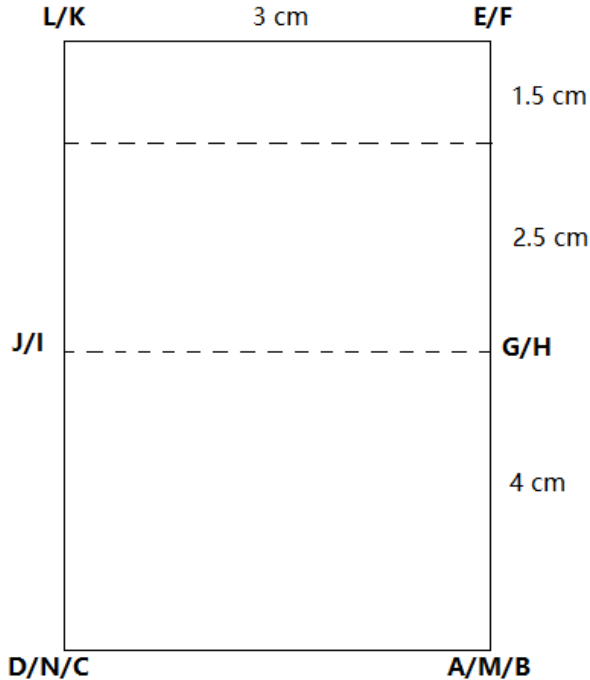
15 (a)



(b)(i)

Correct shape with right trapezium MBHG and AMFE and semicircle EF
 $AM > EF = MB > GH$
 The measurement is correct to ± 0.2 cm (one direction) and the angles at all vertices of the rectangles are $90^\circ \pm 1^\circ$

1
 1
 2 **4**



Correct shape with a rectangle ADLE.
 Dotted lines with equal length and parallel to each other.
 $AG = DJ = JL = GE$
 The measurement is correct to ± 0.2 cm (one direction)
 and the angles at all vertices of the rectangles are $90^\circ \pm 1^\circ$

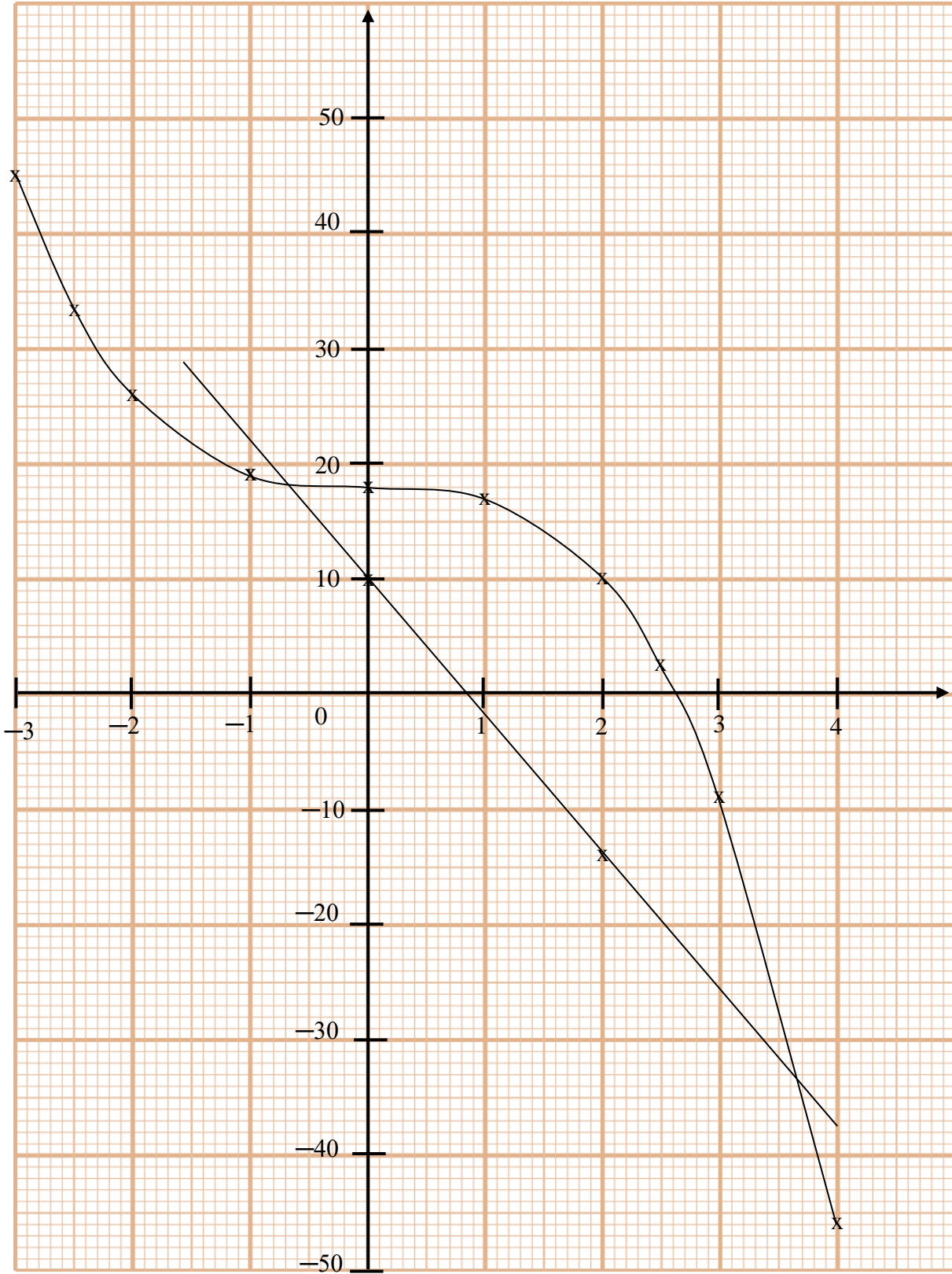
1
 1
 1
 2 **5**

12

SULIT

16 (a)	81 ° E Noted : 81 or θ° E award 1 mark	2	2
(b)	$\frac{4800}{60}$ $\frac{4800}{60} \sim 15$ 65°N	1 1 1	3
(c)	$(180^\circ - 65^\circ - 65^\circ) \times 60$ Note: $(180^\circ - 65^\circ - 65^\circ)$ seen award 1 mark 3000 nautical miles	2 1	3
(d) (i)	$\frac{2}{3} \times 180^\circ \times 60 \cos 65^\circ$ 3 042.85	1 1	
(ii)	$\frac{4800 + *3042.85}{20.5}$ 382.58 knots	1 1	4
			12

SULIT



SULIT

