



MAJLIS PENGETUA SEKOLAH MALAYSIA
(CAWANGAN PULAU PINANG)

LATIH TUBI SPM 2022

MATEMATIK
(SET 1)

SKEMA PEMARKAHAN

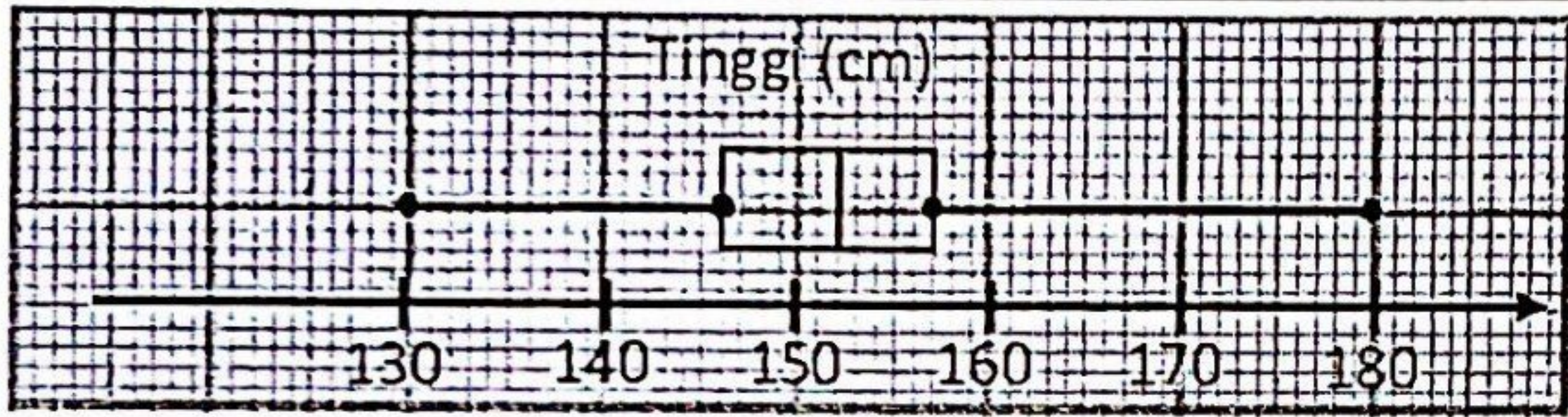
Selamat mengulangkaji dari telegram@soalanpercubaanspm

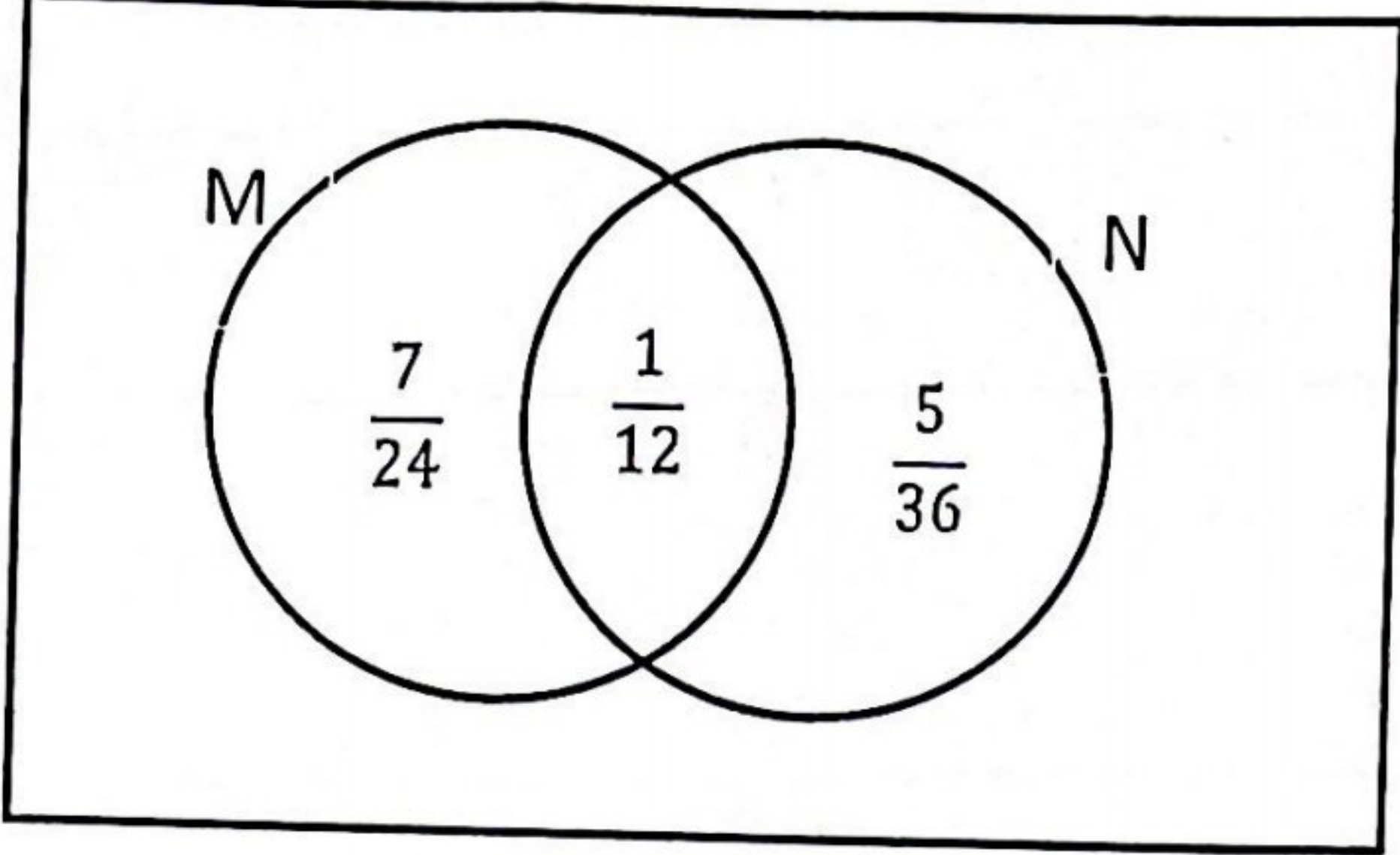
SKEMA JAWAPAN

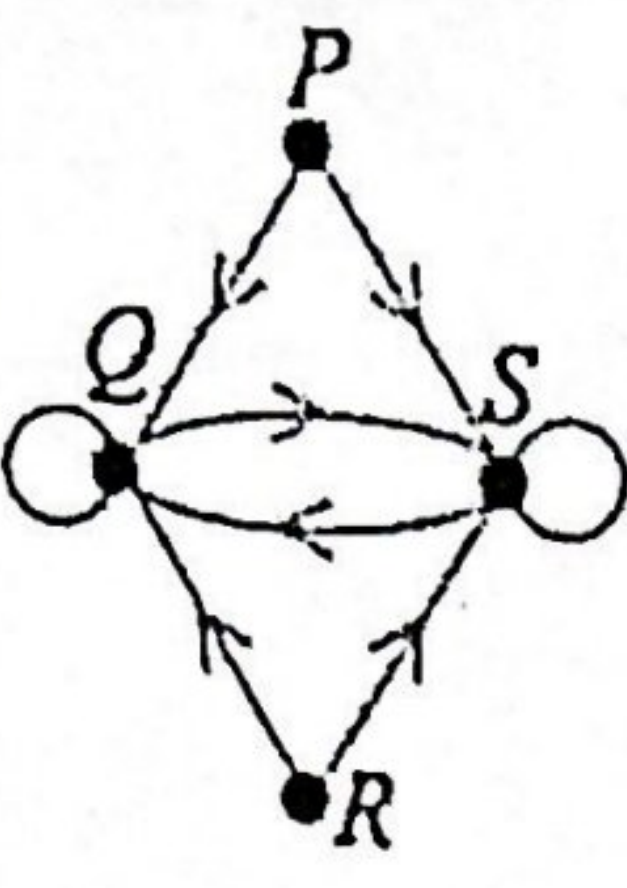
MODUL MPSM 2022

SET 1

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

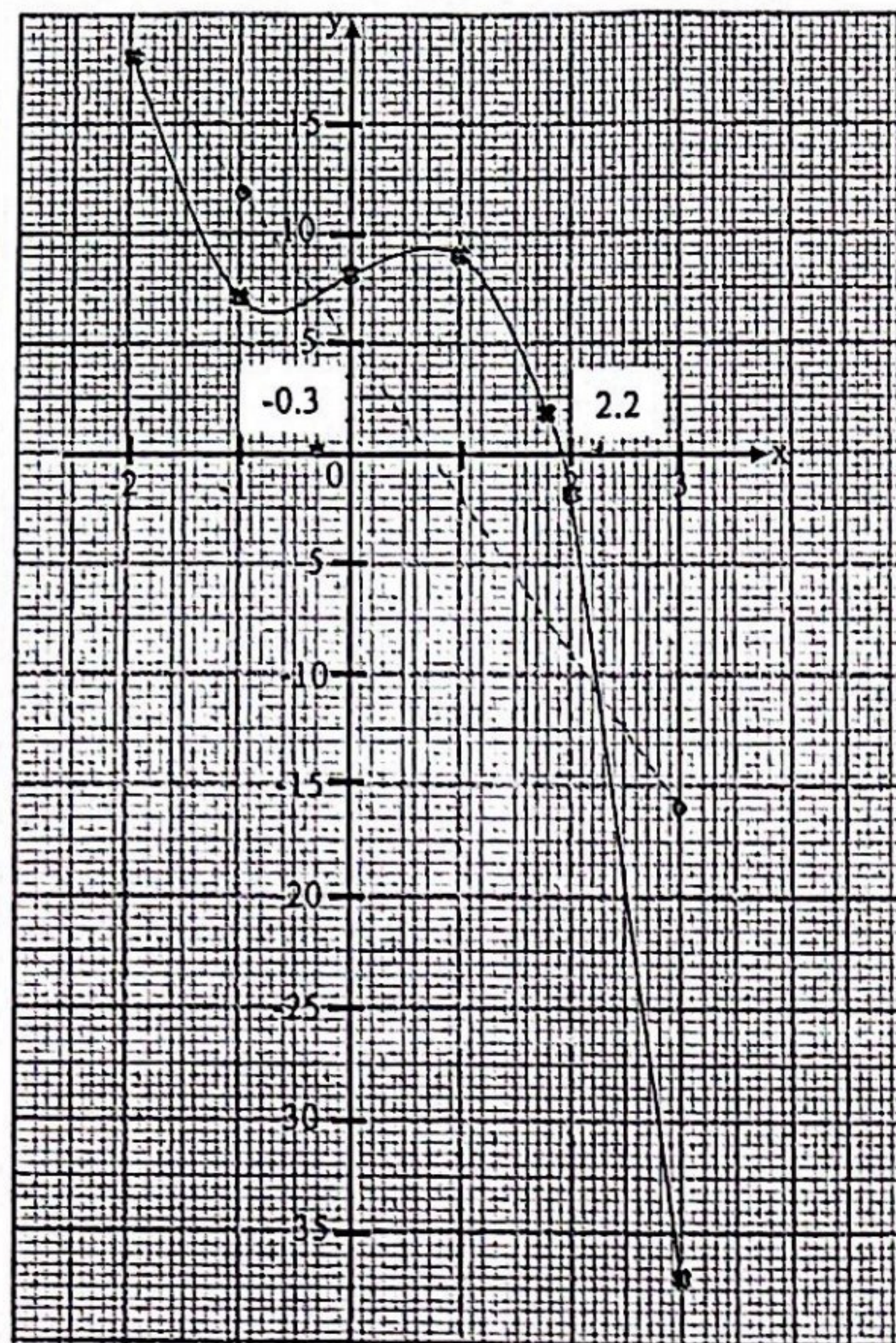
1.	a)	$\frac{d}{t}$	1m
	b)	$\frac{d}{x}$	1m
	c)	$\frac{\frac{d+d}{t+\frac{d}{x}}}{\frac{2dx}{tx+d}}$	1m 1m
2.	a)	9	1m
	b)	i) $\frac{4}{5}$	1m
		ii) $\frac{12}{13}$	1m
3.	a)	$Q_1 = 146$ atau $Q_3 = 157$ hingga 157.5	1m
		11 hingga 11.5	1m
	b)	 Semua dilukis sempurna Nota: Plot dengan betul titik minimum <u>dan</u> titik maksimum <u>atau</u> median <u>atau</u> kuartil ke-1 dan kuartil ke-3 beri 1m	2m
	c)	Pencong kanan	1m
4	a)	$b = -4$	1m
		$c = 5$	1m
		$a = -2$	1m
	b)	$x = \frac{1}{2}$ <u>atau</u> $x = 0.5$	1m
	c)	(0.5, 40.5)	1m

5.	a)	 $\frac{1}{12}$ Di tulis pada ruang yang betul $\frac{5}{36}$ Di tulis pada ruang yang betul	1m 1m
	b)	$1 - \left(\frac{7}{24} + \frac{1}{12} + \frac{5}{36} \right)$ $\frac{35}{72}$ <u>atau</u> setara	1m 1m
6.	a)	$\xi = \{20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35\}$ <u>atau</u> $P = \{23, 29, 31\}$ $P' = \{20, 21, 22, 24, 25, 26, 27, 28, 30, 32, 33, 34, 35\}$	1m 1m
	b)	$R' = \{20, 21, 22, 23, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35\}$ $\{21, 24, 27, 30, 33\}$	1m 1m
	c)	$(Q \cup R) = \{21, 24, 27, 30, 33\}$ $\{21, 24, 27, 30, 33\}$	1m 1m
7.		$155_6 = 71$ <u>atau</u> $134_5 = 44$ 27 1000	1m 1m 1m

8.		 Nota: 1. Ada 4 bucu dilabel dengan betul 2. Ada gelung pada Q dan S 3. Semua arah betul <u>atau</u> *Betul 4 arah atau 5 arah (1m)	1m 1m 2m
9.		Akas : Jika $x^3 = 8$ maka $x = 2$. Songsangan : Jika $x \neq 2$, maka $x^3 \neq 8$. Kontrapositif : Jika $x^3 \neq 8$, maka $x \neq 2$.	1m 1m 1m
10.		$y \geq x$ $y < 3$ $y > -2x$	1m 1m 1m
11.	a)	(i) U : Putaran 90° lawan arah jam pada pusat $(5, -4)$ (ii) V: Pembesaran dengan faktor skala -2 pada pusat $(1, -3)$	3m 3m
	b)	$\frac{90}{2^2}$ atau $\frac{90}{(-2)^2}$ 22.5 cm^2	1m 1m
	c)	Tidak. Mempunyai ruang kosong dan tiada pertindihan	1m 1m

12.	a)	9.5 <u>atau</u> 2.784	1m
	b)	i) $\text{Min baharu} = \frac{7 + 8 + 8 + 10 + 12 + 13 + 13}{7} = 10.14$ <u>atau</u> $\sigma = \sqrt{\frac{7^2 + 8^2 + 8^2 + 10^2 + 12^2 + 13^2 + 13^2}{7} - (10.14)^2}$ $\sigma = 2.356$ ii) $\text{Min baharu} = \frac{5 + 7 + 8 + 8 + 8 + 10 + 12 + 13 + 13}{9} = 9.333$ <u>atau</u> $\sigma = \sqrt{\frac{5^2 + 7^2 + 8^2 + 8^2 + 8^2 + 10^2 + 12^2 + 13^2 + 13^2}{9} - (9.333)^2}$ $\sigma = 2.668$	1m 1m 1m 1m
13.	a)	1000 yang pertama = RM75.60 <u>atau</u> (RM 20.30 × 89)@RM1806.70 [(RM 20.30 × 89) + RM75.60] × 75% @ RM1411.73 NCD = (30% × RM1411.73)@RM423.52 Premium kasar = RM988.21	1m 1m 1m 1m

	b)	(i) <i>Jum. insurans yg harus dibeli</i> $\frac{80}{100} \times RM440\,000$ <u>atau</u> $RM352\,000$ (ii) <i>Bayaran pampasan</i> = $30\,000 - 3\,000 = RM27\,000$ (a) $RM200\,000 < RM352\,000$. <i>Bayaran pampasan</i> = $\left(\frac{200000}{352000} \times 30000\right) - 3000$ $= RM14045.45$ (b) <i>Penalti ko – insurans</i> = $30000 - 14045.45$ $= RM15954.55$ (iii) <i>Bayaran pampasan</i> = $30000 - 3000 = RM297000$	1m 1m 1m, 1m 1m 1m 1m
14.	a)	$9(2) - (3)(m) = 0$ $m = 6$	1m 1m
	b)	i) $2p + 3q = 27$ <u>atau</u> $3p + 4q = 38$ ii) $\begin{pmatrix} 2 & 3 \\ 3 & 4 \end{pmatrix} \begin{pmatrix} p \\ q \end{pmatrix} = \begin{pmatrix} 27 \\ 38 \end{pmatrix}$ $\begin{pmatrix} p \\ q \end{pmatrix} = \frac{1}{2(4) - 3(3)} \begin{pmatrix} 4 & -3 \\ -3 & 2 \end{pmatrix} \begin{pmatrix} 27 \\ 38 \end{pmatrix}$ $p = RM6$ $q = RM5$ <i>Beza/ difference</i> = RM1	1m 1m 1m 1m 1m
15.	a)	1.77 -37	1m 1m
	b)	skala betul Dua titik * Nya dan 5 titik diberi di plot betul Benarkan 2 titik salah plot (1m) Garis lengkung dan licin	1m 2m 1m



	c)	Garis lurus dilukis dengan betul Titik persilangan $-0.4 \leq X \leq 0.2$ $2.1 \leq X \leq 2.3$	2m 1m 1m
16	a)	i) $550000 \times \frac{3.2}{100} \times 25 \quad \text{atau} \quad \text{RM}440000$ $\frac{550000 + 550000 \times \frac{3.2}{100} \times 25}{25 \times 12 \text{ bulan}}$ RM3300	1m 1m 1m
		ii) Sewa diterima = $1000 \times 12 \times 20$ atau Wang pendahuluan = $\frac{10}{100} \times 550000$ Keuntungan: $(1000 \times 12 \times 20) + 1300000$ $- \left(\frac{10}{100} \times 550000 \right) - 178200 - 712800 - 15000 - 10000 - 20960$	1m 2m

		ROI: $\frac{548040}{550000} \times 100\%$ 99.64%	1m
			1m
	b)	$t = \frac{k}{n^2}$ $13 = \frac{k}{4^2}$ $q = \frac{208}{5^2}$ $q = 8.32$	1m 1m 1m 1m
	c)	$(2 \times 6^5) + (3 \times 6^4) + (2 \times 6^3) + (3 \times 6^2) + (3 \times 6^1) + (2 \times 6^0)$ 20000 Tidak mampu	1m 1m 1m
17	a)	i) $H = 210$ $J = 1480$ $K = -90$	1m 1m 1m
		ii) Aliran tunai = -90 Tidak cekap Kerana ada lebihan perbelanjaan atau aliran tunai negatif	1m 1m 1m
	b)	16×10 atau $\frac{1}{2} \times 4 \times 5$ atau $\frac{1}{2} \times (3+4) \times 5$ $16 \times 10 - \frac{1}{2} \times 4 \times 5 - \frac{1}{2} \times (3+4) \times 5$ 132.5	1m 1m 1m
	c)	$p = kw$ $1344 = k(7)$ $k = 192$	1m 1m 1m

