

MODUL TOPIKAL
SOALAN PERCUBAAN SPM 2022

SKEMA JAWAPAN

TOPIK TINGKATAN 5

BAB 1

SUKATAN MEMBULAT
(*CIRCULAR MEASURE*)

SUMBER SOALAN:

SOALAN – SOALAN PERCUBAAN

NEGERI SEMBILAN
SELANGOR SET A (MODUL PINTAS)
MELAKA
JOHOR (TANGKAK)
JOHOR (MUAR)
TERENGGANU
PUTRAJAYA

DISUSUN OLEH:

PN. NOORUL HUDA BINTI MOHD HASHIM
(SMK TAMAN TASIK, TAIPING)

PN ZAINAB BINTI ABD RAHMAN
(SMK CONVENT, TAIPING)



SOALAN 1 : SOALAN PERCUBAAN SPM NEGERI SEMBILAN 2022

1	$5\left(\frac{3}{2}\pi\right)$	K1
	$\frac{15}{2}\pi + 10$	N1
		2 markah

SOALAN 2 : SOALAN PERCUBAAN SPM NEGERI SEMBILAN 2022

6	(a) $\frac{1}{2} \times 3^2 \times \left(\frac{\pi}{3}\right)$ atau $\frac{1}{2} \times 6^2 \times \sin 60$	K1
	$\left(\frac{1}{2} \times 6^2 \times \sin 60\right) - 3\left(\frac{1}{2} \times 3^2 \times \left(\frac{\pi}{3}\right)\right)$	K1
	1.449	N1
	(b) $\frac{2\pi}{3}$ atau 2.095 rad atau 120	K1
	[Panduan : $2\pi - 2\left(\frac{\pi}{2}\right) - \frac{\pi}{3}$ atau $360 - 2(90) - 60$]	
	$3\left(\frac{2\pi}{3}\right)$	K1
	$3\left[3\left(\frac{2\pi}{3}\right)\right] + 3(6)$ atau $3[3(2.095)] + 3(6)$	K1
	36.85 // 36.86	N1
		7 markah

SOALAN 3 : SOALAN PERCUBAAN NEGERI SELANGOR (MODUL PINTAS SET A)

9.	(a) $9 = 15\beta$	K1	2	
	$\beta = 0.6 \text{ rad}$	N1		
	(b) $\frac{1}{2} (15)^2 (0.6)$ atau / or $\frac{1}{2} (7.5)(15)\sin 34.37^\circ$	K1		5
	$\frac{1}{2} (15)^2 (0.6) - \frac{1}{2} (7.5)(15)\sin 34.37^\circ$	K1	3	
	35.74	N1		

SOALAN 4 : SOALAN PERCUBAAN NEGERI SELANGOR (MODUL PINTAS SET A)

5	(a) $\frac{360^\circ}{7} \times \frac{3.142}{180}$ 0.8977	N1	1	7
	(b) $\angle AOD = 3\left(\frac{360^\circ}{7}\right) = 154.29^\circ // 2.963 \text{ rad.}$ $(5) \sin\left(\frac{154.29^\circ}{2}\right)$ atau $(5)(0.8977)$ ATAU $5^2 + 5^2 - 2(5)(5) \cos 154.29^\circ$ $7\left[2(5) \sin\left(\frac{154.29^\circ}{2}\right)\right] + 3(5)(0.8977)$ ATAU $7 \times \sqrt{5^2 + 5^2 - 2(5)(5) \cos 154.29^\circ} + 3(5)(0.8977)$ $= 81.71 \text{ cm}$ 81.71 cm dan cukup 81.71 cm and enough	P1 K1 K1 N1	4	
	(c) $3\left[\frac{1}{2}(5)^2\left(0.8977 - \sin\left(\frac{360^\circ}{7}\right)\right)\right]$ 4.345 cm ³	K1 N1	2	

SOALAN 5 : SOALAN PERCUBAAN SPM NEGERI MELAKA 2022

2	$\cos \angle AOL = \frac{16}{20}$ atau $\sin \angle AOL = \frac{12}{20}$ atau $\tan \angle AOL = \frac{12}{16}$	1	4
	$\angle AOB = 73.74^\circ$ atau 1.287 rad	1	
	20×1.287 atau $\frac{73.74}{360} \times 2\pi(20)$	1	
	25.74	1	

SOALAN 6 : SOALAN PERCUBAAN SPM NEGERI MELAKA 2022

5(a)	$\frac{\sqrt{3^2 + 4^2}}{5}$ atau $9 - 4$	1 1	8
(b)	$\tan \angle OAB = \frac{3}{4}$ atau $\sin \angle OAB = \frac{3}{5}$ atau $\cos \angle OAB = \frac{4}{5}$ 2.4985 / 2.4984	1 1	
(c)	$\frac{1}{2}(5)^2(2.4985)$	1	
	$\frac{1}{2}(5)(5)(\sin 2.4985)$ atau $\frac{1}{2}(5)(5)(\sin 143.13)$	1	
	$\frac{1}{2}(5)^2(2.4985) - \frac{1}{2}(5)(5)(\sin 2.4985)$ atau	1	
	$\frac{1}{2}(5)^2(2.4985) - \frac{1}{2}(5)(5)(\sin 143.13)$ 23.73 / 23.74	1	

SOALAN 7 : SOALAN PERCUBAAN SPM NEGERI JOHOR (TANGKAK)

1			$2j + 55 = 95$ $j = 20 \text{ cm}$ $20\theta = 55$ $\theta = 2.75 \text{ rad}$	1 1	2
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SOALAN 8 : SOALAN PERCUBAAN SPM NEGERI JOHOR (TANGKAK)

6	(a)		$OQ : QB = 20$ $3 : 2 = 20$ $12 : 8 = 20$ $j = 12 \text{ cm}$ $\frac{1}{2}(12)^2(\sin \theta) = 42.42$ $\theta = 0.6301 \text{ rad}$	1 1 1	6
	(b)		Luas berlerek $= \frac{1}{2}(20)^2(0.6301) - 42.42$ $= 83.6$	1,1 1	

SOALAN 9 : SOALAN PERCUBAAN SPM NEGERI JOHOR (MUAR)

1	$10 + 10\lambda + 4 + 6\mu + 6 = 40$ $10\lambda + 6\mu = 20$ $5\lambda + 3\mu = 10$ $\mu = \frac{10 - 5\lambda}{3}$	1	
		1	2

SOALAN 10 : SOALAN PERCUBAAN SPM NEGERI JOHOR (MUAR)

6(a)	$OC \times CT = 40$ $5 \times CT = 40$ $CT = 8\text{cm}$ $\tan \Theta = \frac{8}{5}$ $\Theta = 58^\circ \times \frac{\pi}{180^\circ} = 1.012 \text{ rad}$	1	
(b)	$\text{Luas sektor OAB} = \frac{1}{2} (5)^2 \left[\frac{\pi}{2} - 1.012 \right]$ $= 6.9875 \text{ cm}^2$	1	
		1	
(c)	$\text{Panjang lengkok AB} = 5 \left[\frac{\pi}{2} - 1.012 \right] = 2.795 \text{ cm}$ $\text{Panjang BT} = \sqrt{8^2 + 5^2} - 5 = 4.434 \text{ cm}$ $\text{Perimeter} = 2.795 + 4.434 + 3 + 5$ $= 15.229 \text{ cm}$	1	
		1	
		1	
			6

SOALAN 11 : SOALAN PERCUBAAN SPM 2022 NEGERI TERENGGANU 2022

11	$\tan \alpha = \frac{5}{6.5}$ atau		
	$10^2 = (8.2006)^2 + (8.2006)^2 - 2(8.2006)(8.2006)\cos \theta$	K1	
	$75.14^\circ @ 1.312^*$		
	$L_{\text{sektor}} = \frac{1}{2}(8.2006)^2(1.312^*)$ atau $L_{\text{segitiga}} = \frac{1}{2}(8.2006)^2 \sin 75.14^\circ$	K1	7
	$\frac{1}{2}(8.2006)^2(1.312^*) - \frac{1}{2}(8.2006)^2 \sin 75.14^\circ$	K1	
	$130 + 2(11.62)$	K1	
	153.24	N1	
	Kos pembinaan = 13025.40	N1	
	Tidak, kerana kos pembinaan melebihi peruntukan.	N1	

SOALAN 12 : SOALAN PERCUBAAN SPM 2022 NEGERI TERENGGANU 2022

4	$\angle LOK = \frac{\pi}{2} - \alpha$	P1	4
	$\angle LOJ_{\text{major}} = 2\pi - 2(\frac{\pi}{2} - \alpha)$	K1	
	$14(\pi + 2\alpha) + 14 + 14$	K1	
	$14\pi + 28\alpha + 28$	N1	

SOALAN 13 : SOALAN PERCUBAAN SPM PUTRAJAYA 2022

13.(a)	$9 + r + r = 19$ $r = 5$ $\theta = 1.8 \text{ rad}$ $= 103.12^\circ$	K1 N1 N1 N1	4
(b)	$\pi - 1.8 = 1.342$ $S = 5(1.342)$ Perimeter $QOR = 5 + 5 +$ $= 16.71 \text{ cm}$	K1 K1 K1 N1	4
			8M

SOALAN 14 : SOALAN PERCUBAAN SPM PUTRAJAYA 2022

11	(a)	$\tan \angle ADE = \frac{10}{12}$ $\angle ADE = 0.6948$	K1 N1	2
	(b)	(i) 1.3898 $6(1.3898) = 8.338$ (ii) $ED = 15.62$ or $BD = 9.22$ $(15.62 - 9.22) + 8.338 + 10$ 24.74	K1 N1 K1 K1 N1	5
	(c)	$\frac{1}{2} \times 6^2 \times 1.7522$ or $\frac{1}{2} \times 6^2 \times \sin 100.38^\circ$ $\left(\frac{1}{2} \times 6^2 \times 1.7522 \right) - \left(\frac{1}{2} \times 6^2 \times \sin 100.38^\circ \right)$ 13.83	N1 K1 N1	3
				10