

3472/1
Matematik
Tambahan
Kertas 1
2 Jam



SEKTOR PEMBELAJARAN NEGERI PERAK
JABATAN PENDIDIKAN NEGERI PERAK

MODUL GEMPUR SPM
TAHUN 2022

MATEMATIK TAMBAHAN
Kertas 1
Set 2
Dua Jam

JANGAN BUKA KERTAS SOALAN INI
SEHINGGA DIBERITAHU

1. *Tulis nama dan kelas anda pada ruangan yang disediakan.*
2. *Kertas soalan ini adalah dalam dwibahasa.*
3. *Soalan dalam Bahasa Melayu mendahului soalan yang sepadan dalam Bahasa Inggeris.*
4. *Calon dibenarkan menjawab keseluruhan atau sebahagian soalan sama ada dalam Bahasa Melayu atau Bahasa Inggeris.*

Nama:

Kelas: 5

Untuk Kegunaan Pemeriksa

Bahagian	Soalan	Markah Penuh	Markah Diperolehi
A	1	4	
	2	3	
	3	5	
	4	7	
	5	5	
	6	5	
	7	5	
	8	6	
	9	6	
	10	7	
	11	6	
	12	5	
B	13	8	
	14	8	
	15	8	
Jumlah		80	

SENARAI RUMUS

- 1 $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
- 2 $a^m \times a^n = a^{m+n}$
- 3 $a^m \div a^n = a^{m-n}$
- 4 $(a^m)^n = a^{mn}$
- 5 $\log_a mn = \log_a m + \log_a n$
- 6 $\log_a \frac{m}{n} = \log_a m - \log_a n$
- 7 $\log_a m^n = n \log_a m$
- 8 $\log_a b = \frac{\log_c b}{\log_c a}$
- 9 $T_n = a + (n-1)d$
- 10 $T_n = ar^{n-1}$
- 11 $S_n = \frac{n}{2}[2a + (n-1)d]$
- 12 $S_n = \frac{a(r^n - 1)}{r - 1} = \frac{a(1 - r^n)}{1 - r}, r \neq 1$
- 13 $S_\infty = \frac{a}{1 - r}, |r| < 1$
- 14 $y = uv, \frac{dy}{dx} = u \frac{dv}{dx} + v \frac{du}{dx}$
- 15 $y = \frac{u}{v}, \frac{dy}{dx} = \frac{v \frac{du}{dx} - u \frac{dv}{dx}}{v^2}$
- 16 $\frac{dy}{dx} = \frac{dy}{du} \times \frac{du}{dx}$
- 17 Luas di bawah lengkung
Area under a curve
 $\int_a^b x \, dy$ atau (or) $\int_a^b y \, dx$
- 18 Isi padu kisanan
Volume of revolution
 $\int_a^b \pi y^2 \, dx$ atau (or) $\int_a^b \pi x^2 \, dy$
- 19 $I = \frac{Q_1}{Q_0} \times 100$
- 20 $\bar{I} = \frac{\sum W_i I_i}{\sum W_i}$
- 21 ${}^n P_r = \frac{n!}{(n-r)!}$
- 22 ${}^n C_r = \frac{n!}{(n-r)! r!}$
- 23 $P(X=r) = {}^n C_r p^r q^{n-r}, p+q=1$
- 24 Min / Mean, $\mu = np$
- 25 $\sigma = \sqrt{npq}$
- 26 $Z = \frac{X - \mu}{\sigma}$
- 27 Panjang lengkok, $s = j\theta$
Arc length, $s = r\theta$
- 28 Luas sektor, $L = \frac{1}{2} j^2 \theta$
Area of sector, $A = \frac{1}{2} r^2 \theta$
- 29 $\sin^2 A + \cos^2 A = 1$
 $\sin^2 A + \cos^2 A = 1$
- 30 $\sec^2 A = 1 + \tan^2 A$
 $\sec^2 A = 1 + \tan^2 A$
- 31 $\operatorname{cosec}^2 A = 1 + \cot^2 A$
 $\operatorname{cosec}^2 A = 1 + \cot^2 A$
- 32 $\sin 2A = 2 \sin A \cos A$
 $\sin 2A = 2 \sin A \cos A$

$$\begin{aligned}
 33 \quad \cos 2A &= \cos^2 A - \sin^2 A \\
 &= 2 \cos^2 A - 1 \\
 &= 1 - 2 \sin^2 A
 \end{aligned}$$

$$\begin{aligned}
 \cos 2A &= \cos^2 A - \sin^2 A \\
 &= 2 \cos^2 A - 1 \\
 &= 1 - 2 \sin^2 A
 \end{aligned}$$

$$34 \quad \tan 2A = \frac{2 \tan A}{1 - \tan^2 A}$$

$$\begin{aligned}
 35 \quad \sin (A \pm B) &= \sin A \cos B \pm \cos A \sin B \\
 \sin (A \pm B) &= \sin A \cos B \pm \cos A \sin B
 \end{aligned}$$

$$\begin{aligned}
 36 \quad \cos (A \pm B) &= \cos A \cos B \mp \sin A \sin B \\
 \cos (A \pm B) &= \cos A \cos B \mp \sin A \sin B
 \end{aligned}$$

$$37 \quad \tan (A \pm B) = \frac{\tan A \pm \tan B}{1 \mp \tan A \tan B}$$

$$38 \quad \frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$$\begin{aligned}
 39 \quad a^2 &= b^2 + c^2 - 2bc \cos A \\
 a^2 &= b^2 + c^2 - 2bc \cos A
 \end{aligned}$$

$$\begin{aligned}
 40 \quad \text{Luas segi tiga / Area of triangle} \\
 &= \frac{1}{2} ab \sin C
 \end{aligned}$$

41 Titik yang membahagi suatu tembereng garis
A point dividing a segment of a line

$$(x, y) = \left(\frac{nx_1 + mx_2}{m+n}, \frac{ny_1 + my_2}{m+n} \right)$$

42 Luas segi tiga / *Area of triangle*

$$= \frac{1}{2} |(x_1 y_2 + x_2 y_3 + x_3 y_1) - (x_2 y_1 + x_3 y_2 + x_1 y_3)|$$

$$43 \quad |\underline{r}| = \sqrt{x^2 + y^2}$$

$$44 \quad \hat{r} = \frac{x\hat{i} + y\hat{j}}{\sqrt{x^2 + y^2}}$$

Bahagian A

Section A

[64 markah]

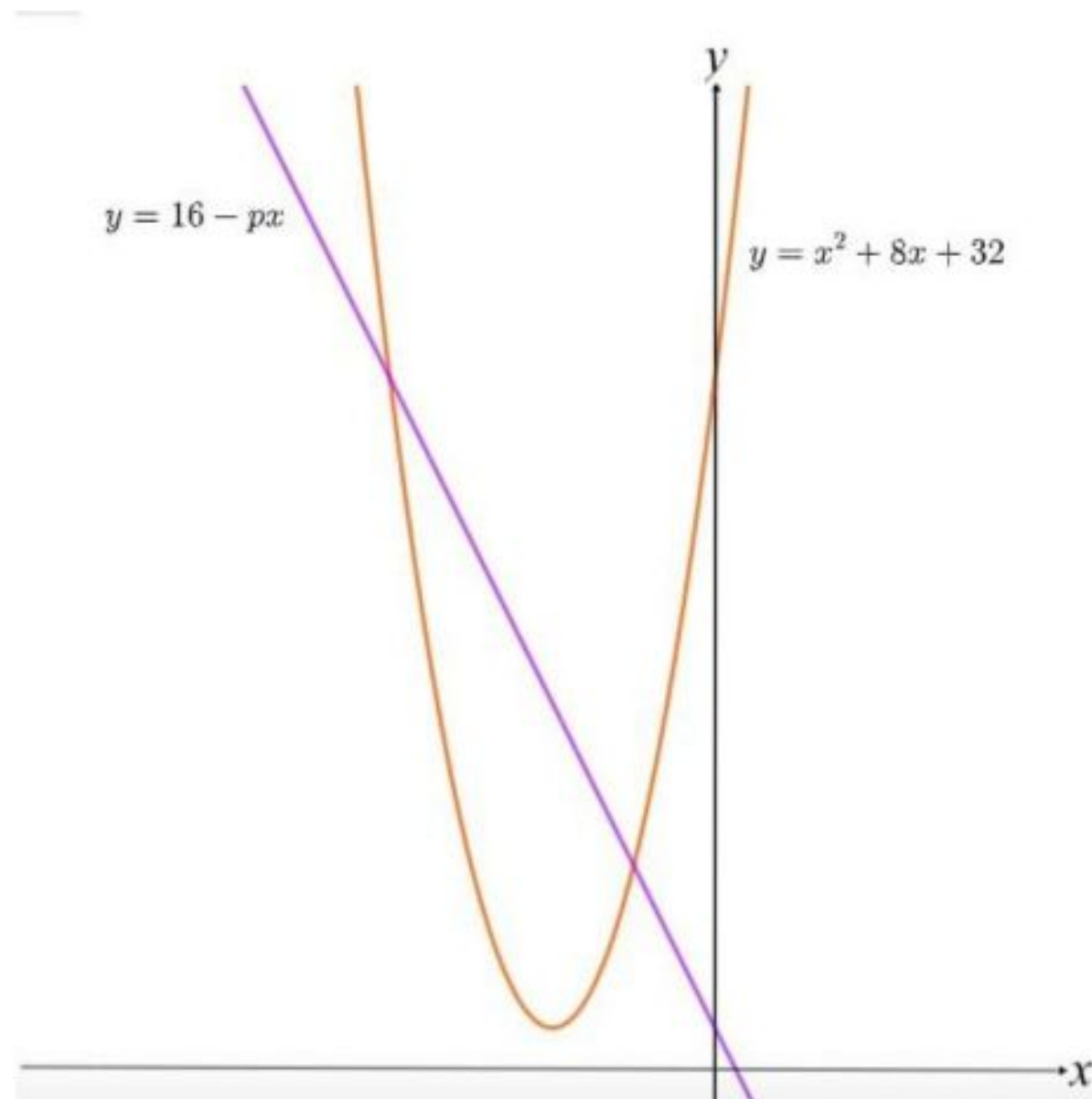
[64 markah]

Jawab **semua** soalan.

Answer **all** questions.

- 1 Diberi bahawa garis lurus $y = 16 - px$ menyalang lengkung $y = x^2 + 8x + 32$ seperti yang ditunjukkan dalam rajah.

Given that the straight line $y = 16 - px$ intersects the curve $y = x^2 + 8x + 32$ as shown in the diagram.



Rajah 1
Diagram 1

Cari julat nilai p supaya kedua-dua garis dan lengkung mesti bertemu.

Find the range of values of p so that both straight and curved lines must meet.

[4 markah]

[4 marks]

Jawapan / Answer :

RUANGAN JAWAPAN BAGI SOALAN 1 / ANSWER SPACE FOR QUESTION 1

2 Bezakan $\frac{(3x+1)^2}{(1-2x)}$ terhadap x .

Differentiate $\frac{(3x+1)^2}{(1-2x)}$ with respect to x ,

[3 markah]

[3 marks]

Jawapan / Answer :

- 3 Berat bagi murid tingkatan 2 di sebuah sekolah adalah bertaburan secara normal dengan min, μ dan sisihan piawai, σ .

The weights of form 2 students in a school are normally distributed with mean, μ and standard deviation, σ .

Jika 10% daripada murid tersebut mempunyai berat minimum 75 kg dan 35% daripada murid mempunyai berat sekurang-kurangnya 40kg. Cari nilai bagi μ dan σ .

If 10% of the students have a minimum weight of 75 kg and 35% of the students have a weight of at least 40kg. Find the values of μ and σ .

[5 markah]

[5 marks]

Jawapan / Answer :

- 4 (a) Tentukan sama ada jujukan berikut ialah jujukan geometri atau bukan. Beri justifikasi anda.
Determine whether the progression below is a geometric progression or not. Give your justification.

$$768p, 192p^2, 48p^3, 12p^4, \dots$$

[2 markah]

[2 marks]

- (b) Ben memulakan pekerjaan baru dengan gaji tahunan RM18000. Kontraknya menjanjikan kenaikan gaji sebanyak RM1800 setiap tahun berikutnya sehingga gaji tahunannya mencapai RM36000. Setelah gaji tahunannya mencapai RM36000, Ben tidak akan lagi menerima sebarang kenaikan gaji.

Ben starts his new job on an annual salary of RM18000. His contract promises a pay rise of RM1800 in each subsequent year until his salary reaches RM36000. When the salary reaches RM36000, Ben will not receive anymore pay rises.

Kent juga memulakan pekerjaan baru pada masa yang sama dengan gaji tahunan RM a . Kontraknya menjanjikan kenaikan gaji RM1000 setiap tahun berikutnya sehingga gaji tahunannya mencapai RM36000. Setelah gaji tahunannya mencapai RM36000, Kent juga tidak akan lagi menerima sebarang kenaikan gaji. Kent mencapai gaji maksimumnya RM36000 pada tahun ke-15.

Kent also starts his new job at the same time on an annual salary of RM a . His contract promises a pay rise of RM1000 in each subsequent year until his salary reaches RM36000. When the salary reaches RM36000, Kent also will not receive anymore pay rises. Kent's salary first reaches the maximum salary of RM36000 in year 15.

Siapa akan menerima jumlah gaji yang lebih selepas tahun ke-15. Beri justifikasi anda.

Who will receive more total earnings after year 15. Give your justification.

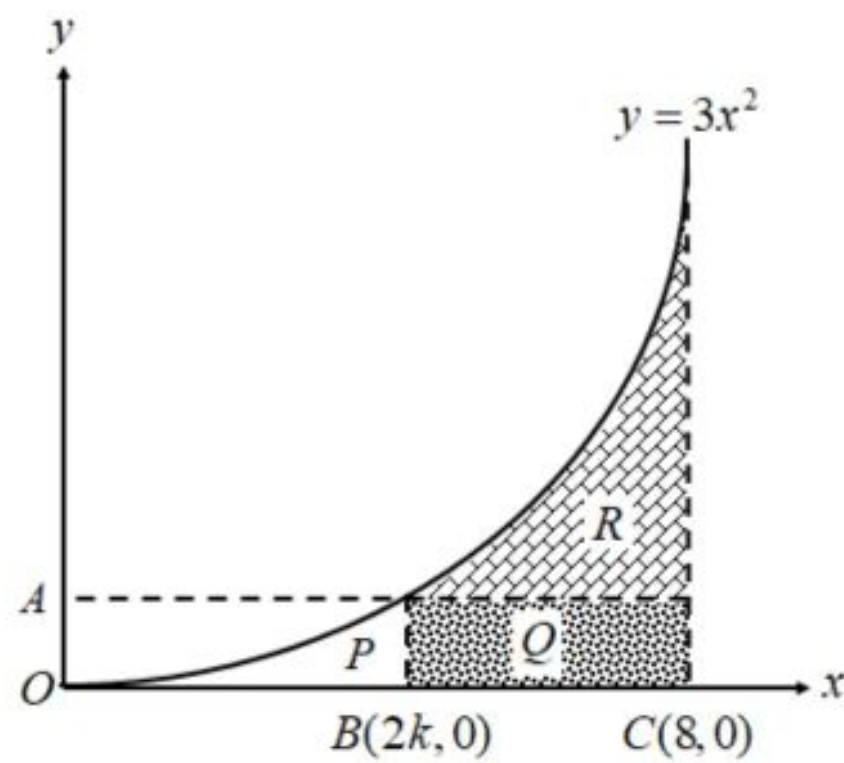
[5 markah]

[5 marks]

Jawapan / Answer :

5 Rajah 2 menunjukkan sebahagian daripada lengkung $y = 3x^2$.

Diagram 2 shows part of the curve $y = 3x^2$.



Rajah 2
Diagram 2

P , Q dan R menunjukkan luas kawasan di bawah graf dan $OA:OB = 5:2$.

P , Q and R shows the area under the graph and $OA:OB = 5:2$.

- (a) Buktikan luas kawasan Q ialah $-10k^2 + 40k$ dan cari nilai k sekiranya luas kawasan Q ialah 40 unit^2 .

Show that the area of Q is $-10k^2 + 40k$ and find the value of k if the area of Q is 40 unit^2 .

[3 markah]

[3 marks]

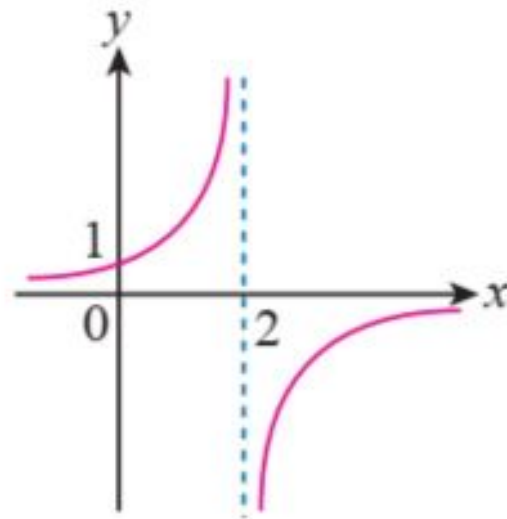
- (b) Seterusnya, cari luas kawasan R .
Hence, find the area of R .

[2 markah]

[2 marks]

Jawapan/ Answer :

RUANGAN JAWAPAN BAGI SOALAN 5 / ANSWER SPACE FOR QUESTION 5



Rajah 3
Diagram 3

- (a) Rajah 3 di atas menunjukkan graf bagi fungsi $f(x) = \frac{2}{2-x}$, $x \neq 2$. Tentukan bahawa fungsi f mempunyai fungsi songsang dengan menggunakan ujian garis mengufuk dan berikan justifikasi bagi jawapan anda.

The above diagram 3 shows a graph of function $f(x) = \frac{2}{2-x}$, $x \neq 2$. Determine that the functions f has an inverse by using horizontal line test and justify your answer.

[1 markah]

[1 mark]

- (b) Cari
Find
(i) f^{-1}

(ii) $f^{-1}(-6)$

[2 markah]

[2 marks]

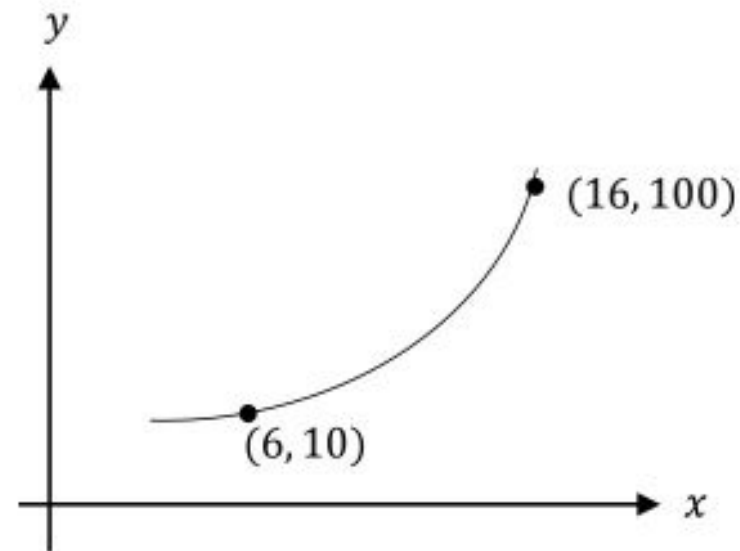
[2 markah]

[2 marks]

Jawapan / Answer :

- 7 Rajah 4 menunjukkan sebahagian daripada graf bagi jumlah populasi bakteria yang disimpan di dalam satu tabung uji. Pemboleh ubah x mewakili bilangan jam dan y mewakili jumlah populasi. Pemboleh ubah x dan y dihubungkan oleh persamaan $y = pq^x$, dengan keadaan p dan q ialah pemalar.

Diagram 4 shows a part of a graph for the total population of a type of bacteria kept in a test tube. The variable x represents the number of hours and y represents the total population. Variables x and y are related by the equation $y = pq^x$, such that p and q are constants.



Rajah 4
Diagram 4

- (a) Lakarkan graf garis lurus $\log_{10} y$ melawan x .
Sketch the straight line graph of $\log_{10} y$ against x .

[2 markah]
[2 marks]

- (b) Berdasarkan graf di (a), carikan nilai bagi p dan q .
Based on the graph in (a), find the value of p and q .

[3 markah]
[3 marks]

Jawapan / Answer:

- 8 (a) Diberi $25(5^{2x-3}) = 1$, cari nilai bagi x yang memenuhi persamaan.
Given $25(5^{2x-3}) = 1$, find the value of x that satisfies the equation

[2 markah]
[2 marks]

- (b) Diberi $x = \frac{1}{4+3\sqrt{2}}$ dan $y = \frac{1}{4-3\sqrt{2}}$. Cari nilai bagi $xy^2 + x^2y$.

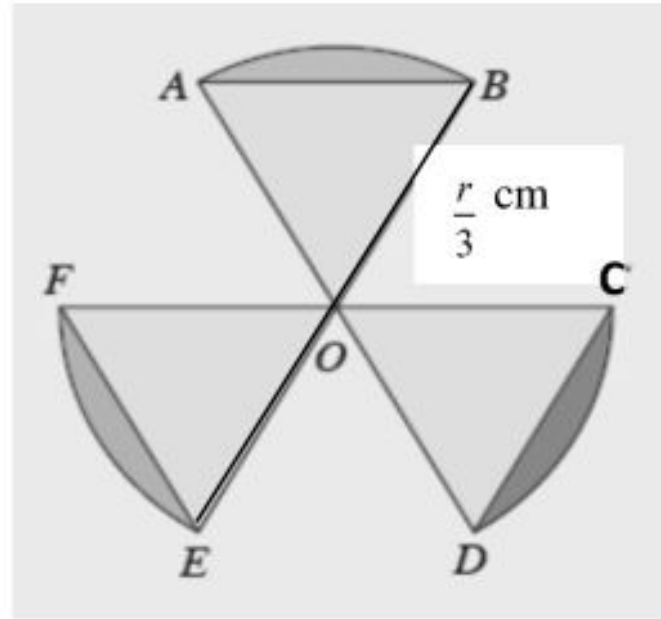
It is given that $x = \frac{1}{4+3\sqrt{2}}$ and $y = \frac{1}{4-3\sqrt{2}}$. Find the value of $xy^2 + x^2y$.

[4 markah]
[4 marks]

Jawapan / Answer :

- 9 Rajah 5 menunjukkan sebuah logo bagi kelab keusahawanan di sebuah kolej. Bentuknya terdiri daripada 3 sektor bulatan AOB, COD dan EOF yang sama saiz dan berpusat di O dan berjejari $\frac{r}{3}$ cm. Diberi $\angle AOB = \angle COD = \angle EOF$.

Diagram 5 shows a logo for entrepreneurship club in a college. The shape consist of 3 sector of a circle AOB, COD and EOF that have a same size and centre at O and the radius is $\frac{r}{3}$ cm. Given $\angle AOB = \angle COD = \angle EOF$.



Rajah 5
Diagram 5

Hitung nilai $\angle AOB$ dalam radian. Tunjukkan bahawa luas bagi kawasan berlorek ialah $\left(\frac{\pi}{18} - \frac{\sqrt{3}}{12}\right)r^2$ cm^2 . Seterusnya, cari luas kawasan berlorek jika $r = 30$ cm .

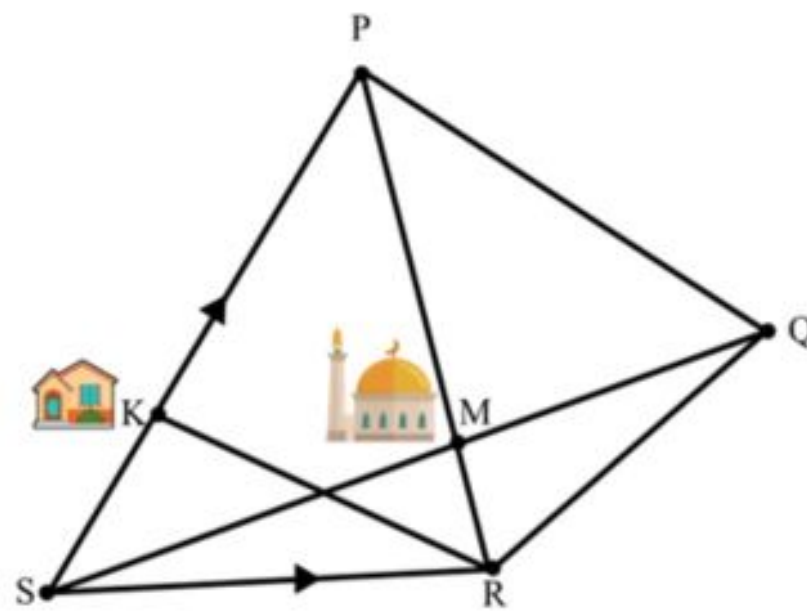
Calculate the value of $\angle AOB$ in radian. Show that the area of the shaded region is $\left(\frac{\pi}{18} - \frac{\sqrt{3}}{12}\right)r^2 \text{ cm}^2$.
Hence, find the area of the shaded region given $r = 30$ cm .

[6 markah]
[6 marks]

Jawapan / Answer :

RUANGAN JAWAPAN BAGI SOALAN 9 / ANSWER SPACE FOR QUESTION 9

- 10 Rajah 6 menunjukkan jalan di sebuah kampung yang membentuk sisi empat $PQRS$. Sebuah masjid terletak di persimpangan jalan SQ dan jalan PR . Rumah Kamal terletak di jalan SP .
Diagram 6 shows roads of a village that form a quadrilateral $PQRS$. A mosque is at the junction of roads SQ and PR . Kamal's house is at road SP .



Rajah 6
 Diagram 6

Diberi bahawa $SP = 4SK$ dan $PM : MR = 3 : 1$. Jalan SR diwakili oleh vektor \underline{x} manakala jalan SP diwakili oleh vektor $4\underline{y}$.

Given that $SP = 4SK$ and $PM : MR = 3 : 1$. SR road is represented by vector \underline{x} while SP road is represented by $4\underline{y}$

- (a) Ungkapkan vektor yang mewakili jalan berikut dalam sebutan \underline{x} dan \underline{y}

Express vector that represent the following road in terms of \underline{x} and \underline{y}

(i) \overrightarrow{KR}

(ii) \overrightarrow{SM}

[3 markah]

[3 marks]

- (b) Diberi $\overrightarrow{PQ} = p\underline{x} - 2\underline{y}$ dan $\overrightarrow{SM} = q\overrightarrow{SQ}$ dengan keadaan p dan q ialah pemalar, cari nilai p dan nilai q .

Given that $\overrightarrow{PQ} = p\underline{x} - 2\underline{y}$ and $\overrightarrow{SM} = q\overrightarrow{SQ}$ where p and q are constants, find the values of p and q .

[4 markah]

[4 marks]

Jawapan/ Answer:

RUANGAN JAWAPAN BAGI SOALAN 10 / ANSWER SPACE FOR QUESTION 10

- 11 (a) Terbitkan rumus kos $2A$ dengan menggunakan rumus sudut majmuk.
Derive the formula $\cos 2A$ using the compound angle formula.

[2 markah]
[2 marks]

- (b) Selesaikan persamaan $3 \cos^2 x - 3 \sin^2 x = 8 \sin x \cos x$ bagi $0^\circ \leq x \leq 360^\circ$
Solve the equation $3 \cos^2 x - 3 \sin^2 x = 8 \sin x \cos x$ for $0^\circ \leq x \leq 360^\circ$

[4 markah]
[4 marks]

Jawapan / Answer :

- 12 (a) Khalis perlu memilih sehelai baju dan sehelai seluar panjang daripada 6 baju dan 4 seluar panjang dalam almari. Cari bilangan cara yang mungkin untuk dia membuat demikian.
Khalis has to choose a shirt and a trouser from 6 shirts and 4 trousers in his cupboard. Find the possible number of ways he can do this.
- [2 markah]
[2 marks]
- (b) Fairus telah menerima 8 biji manik yang berlainan warna daripada rakannya. Dia ingin membentuk seutas rantai dengan manik-manik ini. Cari bilangan rantai yang berlainan yang dapat dibentuk dengan menggunakan sekurang- kurangnya 6 daripada 8 manik tersebut.
Fairus received 8 beads with different colours from her friend. She would like to make a necklace with these beads. Find number of different necklace that can be made using at least 6 from the 8 beads.
- [3 markah]
[3 marks]

Jawapan / Answer :

Bahagian B

Section B

[16 markah]

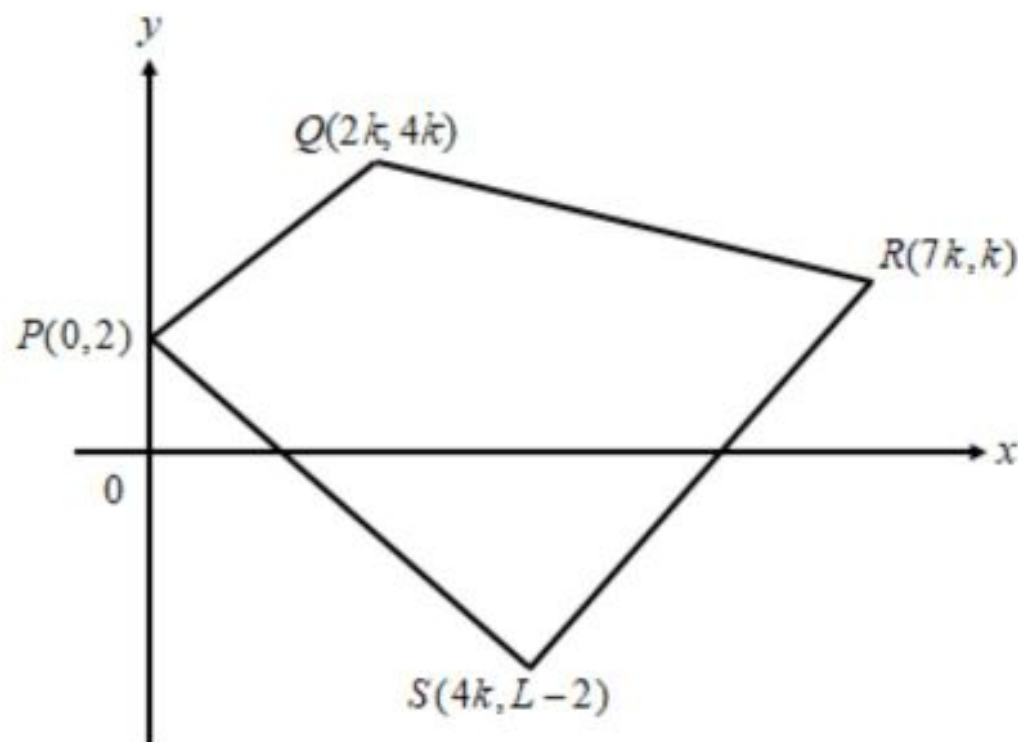
[16 markah]

Jawab mana-mana **dua** soalan daripada bahagian ini.

Answer any two questions from this section.

- 13 Rajah 7 menunjukkan sisi empat $PQRS$. Titik $M(9, h+k)$ berada di atas garis lurus QR . Jarak titik M ke titik Q adalah sama jaraknya dengan titik R .

Diagram 7 shows the quadrilateral $PQRS$. Point M lies on the straight line QR . The distance from point M to point Q is the same distance as point R .



Rajah 7
Diagram 7

Nisbah jarak $QM : MR$ ialah $m : n$,

The distance ratio $QM : MR$ is $m : n$,

- (a) nyatakan nilai terkecil bagi m dan n ,
state the smallest value of m and n ,

[1 markah]

[1 mark]

- (b) ungkapkan h dalam sebutan k ,
express h in terms of k ,

[3 markah]

[3 marks]

- (c) cari nilai-nilai L yang mungkin apabila luas sisi empat $PQRS$ ialah 105 unit² dan seterusnya nyatakan koordinat bagi titik S .

find the possible values of L when the area of the quadrilateral $PQRS$ is 105 units², hence state the coordinates of point S .

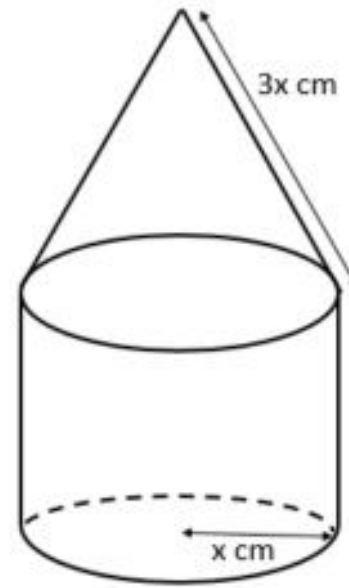
[4 markah]

[4 marks]

Jawapan/ Answer :

RUANGAN JAWAPAN BAGI SOALAN 13 / ANSWER SPACE FOR QUESTION 13

14.



Rajah 8
Diagram 8

Rajah 8 di atas menunjukkan sebuah bongkah yang terdiri daripada sebuah kon terletak di atas sebuah silinder berjari x cm. Diberi panjang sendeng kon itu ialah $3x$ cm dan isi padu silinder 32π cm³.

The above diagram 8 shows a combined solid with a cone which is on a cylinder with radius x cm. The length of the slant height is $3x$ cm and the volume of the cylinder is 32π cm³.

- (a) Buktikan bahawa jumlah luas permukaan bongkah itu, L cm², diberi oleh persamaan

$$L = 4\pi \left(x^2 + \frac{16}{x} \right).$$

Prove that the total of the surface area of the combined solid, L cm², with the equation

$$L = 4\pi \left(x^2 + \frac{16}{x} \right)$$

[3 markah]

[3 marks]

- (b) Hitungkan nilai minimum bagi jejari silinder itu.

Calculate the minimum value of the radius of the cylinder.

[2 markah]

[2 marks]

- (c) Diberi luas permukaan bongkah itu berubah dengan kadar 42π cm²s⁻¹. Carikan kadar perubahan jejari ketika jejarinya 4 cm.

Given that the total of the surface area of the combined solid changes at the rate 42π cm²s⁻¹. Find the rate of change of the radius at the instant the radius is 4 cm.

[3 markah]

[3 marks]

Jawapan / Answer :

RUANGAN JAWAPAN BAGI SOALAN 14 / ANSWER SPACE FOR QUESTION 14

15 (a) Diberi $2^x = 4^y = 8^z$, ungkapkan y dalam sebutan x dan z .

Given $2^x = 4^y = 8^z$, express y in terms of x and z .

[4 markah]

[4 marks]

(b) Suhu sejenis bongkah aluminium menyusut daripada 120°C kepada $T^\circ\text{C}$ mengikut persamaan $T = 100(0.95)^x$ selepas x saat. Hitungkan

The temperature of a cube of aluminium decreases from 120°C to $T^\circ\text{C}$ following the equation

$T = 100(0.95)^x$ after x seconds. Calculate

(i) suhu aluminium selepas 4 saat,

the temperature of the aluminium cube after 4 seconds,

(ii) masa, t dalam saat untuk suhu aluminium menyusut daripada 120°C kepada 90°C .

the time, t in seconds for the aluminium to decrease from 120°C to 90°C .

[4 markah]

[4 marks]

Jawapan / Answer : :

**KEBARANGKALIAN Hujung Atas $Q(z)$ BAGI TABURAN NORMAL $N(0, 1)$
THE UPPER TAIL PROBABILITY $Q(z)$ FOR THE NORMAL DISTRIBUTION $N(0, 1)$**

z										Tolak / Minus									
	0	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
0.0	0.5000	0.4960	0.4920	0.4880	0.4840	0.4801	0.4761	0.4721	0.4681	0.4641	4	8	12	16	20	24	28	32	36
0.1	0.4602	0.4562	0.4522	0.4483	0.4443	0.4404	0.4364	0.4325	0.4286	0.4247	4	8	12	16	20	24	28	32	36
0.2	0.4207	0.4168	0.4129	0.4090	0.4052	0.4013	0.3974	0.3936	0.3897	0.3859	4	8	12	15	19	23	27	31	35
0.3	0.3821	0.3783	0.3745	0.3707	0.3669	0.3632	0.3594	0.3557	0.3520	0.3483	4	7	11	15	19	22	26	30	34
0.4	0.3446	0.3409	0.3372	0.3336	0.3300	0.3264	0.3228	0.3192	0.3156	0.3121	4	7	11	15	18	22	25	29	32
0.5	0.3085	0.3050	0.3015	0.2981	0.2946	0.2912	0.2877	0.2843	0.2810	0.2776	3	7	10	14	17	20	24	27	31
0.6	0.2743	0.2709	0.2676	0.2643	0.2611	0.2578	0.2546	0.2514	0.2483	0.2451	3	7	10	13	16	19	23	26	29
0.7	0.2420	0.2389	0.2358	0.2327	0.2296	0.2266	0.2236	0.2206	0.2177	0.2148	3	6	9	12	15	18	21	24	27
0.8	0.2119	0.2090	0.2061	0.2033	0.2005	0.1977	0.1949	0.1922	0.1894	0.1867	3	5	8	11	14	16	19	22	25
0.9	0.1841	0.1814	0.1788	0.1762	0.1736	0.1711	0.1685	0.1660	0.1635	0.1611	3	5	8	10	13	15	18	20	23
1.0	0.1587	0.1562	0.1539	0.1515	0.1492	0.1469	0.1446	0.1423	0.1401	0.1379	2	5	7	9	12	14	16	19	21
1.1	0.1357	0.1335	0.1314	0.1292	0.1271	0.1251	0.1230	0.1210	0.1190	0.1170	2	4	6	8	10	12	14	16	18
1.2	0.1151	0.1131	0.1112	0.1093	0.1075	0.1056	0.1038	0.1020	0.1003	0.0985	2	4	6	7	9	11	13	15	17
1.3	0.0968	0.0951	0.0934	0.0918	0.0901	0.0885	0.0869	0.0853	0.0838	0.0823	2	3	5	6	8	10	11	13	14
1.4	0.0808	0.0793	0.0778	0.0764	0.0749	0.0735	0.0721	0.0708	0.0694	0.0681	1	3	4	6	7	8	10	11	13
1.5	0.0668	0.0655	0.0643	0.0630	0.0618	0.0606	0.0594	0.0582	0.0571	0.0559	1	2	4	5	6	7	8	10	11
1.6	0.0548	0.0537	0.0526	0.0516	0.0505	0.0495	0.0485	0.0475	0.0465	0.0455	1	2	3	4	5	6	7	8	9
1.7	0.0446	0.0436	0.0427	0.0418	0.0409	0.0401	0.0392	0.0384	0.0375	0.0367	1	2	3	4	4	5	6	7	8
1.8	0.0359	0.0351	0.0344	0.0336	0.0329	0.0322	0.0314	0.0307	0.0301	0.0294	1	1	2	3	4	4	5	6	6
1.9	0.0287	0.0281	0.0274	0.0268	0.0262	0.0256	0.0250	0.0244	0.0239	0.0233	1	1	2	2	3	4	4	5	5
2.0	0.0228	0.0222	0.0217	0.0212	0.0207	0.0202	0.0197	0.0192	0.0188	0.0183	0	1	1	2	2	3	3	4	4
2.1	0.0179	0.0174	0.0170	0.0166	0.0162	0.0158	0.0154	0.0150	0.0146	0.0143	0	1	1	2	2	2	3	3	4
2.2	0.0139	0.0136	0.0132	0.0129	0.0125	0.0122	0.0119	0.0116	0.0113	0.0110	0	1	1	1	2	2	2	3	3
2.3	0.0107	0.0104	0.0102								0	1	1	1	1	2	2	2	2
				0.00990	0.00964	0.00939	0.00914				3	5	8	10	13	15	18	20	23
								0.00889	0.00866	0.00842	2	5	7	9	12	14	16	16	21
2.4	0.00820	0.00798	0.00776	0.00755	0.00734						2	4	6	8	11	13	15	17	19
						0.00714	0.00695	0.00676	0.00657	0.00639	2	4	6	7	9	11	13	15	17
2.5	0.00621	0.00604	0.00587	0.00570	0.00554	0.00539	0.00523	0.00508	0.00494	0.00480	2	3	5	6	8	9	11	12	14
2.6	0.00466	0.00453	0.00440	0.00427	0.00415	0.00402	0.00391	0.00379	0.00368	0.00357	1	2	3	5	6	7	9	9	10
2.7	0.00347	0.00336	0.00326	0.00317	0.00307	0.00298	0.00289	0.00280	0.00272	0.00264	1	2	3	4	5	6	7	8	9
2.8	0.00256	0.00248	0.00240	0.00233	0.00226	0.00219	0.00212	0.00205	0.00199	0.00193	1	1	2	3	4	4	5	6	6
2.9	0.00187	0.00181	0.00175	0.00169	0.00164	0.00159	0.00154	0.00149	0.00144	0.00139	0	1	1	2	2	3	3	4	4
3.0	0.00135	0.00131	0.00126	0.00122	0.00118	0.00114	0.00111	0.00107	0.00104	0.00100	0	1	1	2	2	2	3	3	4

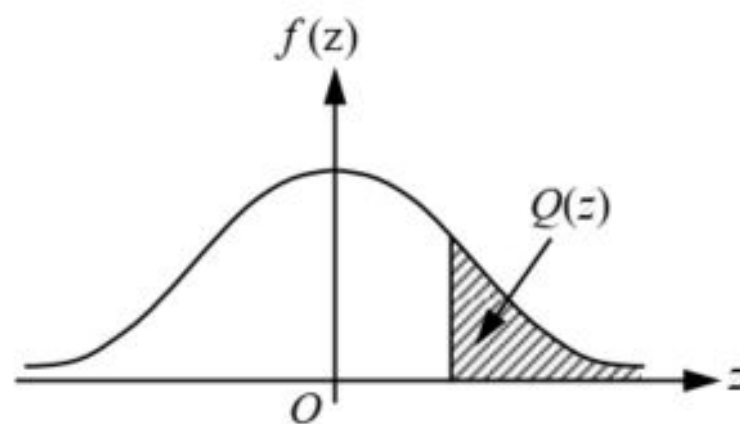
Bagi z negatif guna hubungan:

For negative z use relation:

$$Q(z) = 1 - Q(-z) = P(-z)$$

$$f(z) = \frac{1}{\sqrt{2\pi}} \exp\left(-\frac{1}{2}z^2\right)$$

$$Q(z) = \int_k^{\infty} f(z) dz$$



Contoh / Example:

Jika $X \sim N(0, 1)$, maka

If $X \sim N(0, 1)$, then

$$P(X > k) = Q(k)$$

$$P(X > 2.1) = Q(2.1) = 0.0179$$