

Nama : Tingkatan :



PERSIDANGAN PENGETUA & MAJLIS PENGETUA
MAAHAD & SEKOLAH MENENGAH UGAMA (A)
YAYASAN ISLAM KELANTAN



Matematik
Tambahan
Kertas 1
NOV 2022
2 jam

PEPERIKSAAN PERCUBAAN
SIJIL PELAJARAN MALAYSIA 2022

MATEMATIK TAMBAHAN
Kertas 1

Dua jam

JANGAN BUKA KERTAS PEPERIKSAAN INI SEHINGGA DIBERITAHU

- Tuliskan nama dan tingkatan anda di rungan yang disediakan.*
- Kertas peperiksaan ini adalah dalam dwibahasa.*
- Soalan dalam bahasa Melayu mendahului soalan yang sepadan dalam bahasa Inggeris.*
- Calon dibenarkan menjawab keseluruhan atau sebahagian soalan sama ada dalam*

Untuk kegunaan pemeriksa			
Bahagian	Soalan	Markah penuh	Markah diperolehi
A [64 M]	1	4	
	2	5	
	3	5	
	4	6	
	5	6	
	6	4	
	7	5	
	8	6	
	9	6	
	10	7	
	11	4	
	12	6	
B [16 M]	1	8	
	2	8	
	3	8	
TOTAL		80	

Kertas peperiksaan ini mengandungi 27 halaman bercetak dan 1 halaman tidak bercetak

MAKLUMAT UNTUK CALON
INFORMATION FOR CANDIDATES

1. Kertas soalan ini mengandungi dua bahagian: **Bahagian A.** dan **Bahagian B.**
*This question paper consists of two sections: **Section A** and **Section B.***
2. Jawab **semua** soalan dalam **Bahagian A**, mana-mana **dua** soalan daripada **Bahagian B.**
*Answer **all** questions in **Section A**, **any two** questions from **Section B***
3. Tulis jawapan anda dalam ruang yang disediakan dalam kertas peperiksaan.
Write your answers in the spaces provided in the question paper.
4. Tunjukkan langkah-langkah penting dalam kerja mengira anda. Ini boleh membantu anda untuk mendapatkan markah.
Show your working. It may help you to get marks.
5. Sekiranya anda hendak menukar jawapan, batalkan jawapan yang telah dibuat. Kemudian tulis jawapan yang baharu.
If you wish to change your answer, cross out the answer that you have done. Then write down the new answer.
6. Rajah yang mengiringi soalan tidak dilukis mengikut skala kecuali dinyatakan.
The diagrams in the questions provided are not drawn to scale unless stated.
7. Markah yang diperuntukkan bagi setiap soalan dan ceraihan soalan ditunjukkan dalam kurungan.
The marks allocated for each question and sub-part of a question are shown in brackets.
8. Satu senarai rumus disediakan di halaman **3** dan **4**
*A list of formulae is provided on pages **3** and **4** .*
9. Anda dibenarkan menggunakan kalkulator saintifik.
You may use a scientific calculator.
10. Ikat kertas jawapan dan kertas graf bersama-sama dan serahkan kepada pengawas peperiksaan pada akhir peperiksaan.
Tie the paper and the graph papers together and hand in to the invigilator at the end of the examination.

**RUMUS
FORMULAE**

$$1 \quad x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$2 \quad a^m \times a^n = a^{m+n}$$

$$3 \quad a^m \div a^n = a^{m-n}$$

$$4 \quad (a^m)^n = a^{mn}$$

$$5 \quad \log_a mn = \log_a m + \log_a n$$

$$6 \quad \log_a \left(\frac{m}{n} \right) = \log_a m - \log_a n$$

$$7 \quad \log_a m^n = n \log_a m$$

$$8 \quad \log_a b = \frac{\log_c b}{\log_c a}$$

$$9 \quad T_n = a + (n-1)d$$

$$10 \quad S_n = \frac{n}{2} [2a + (n-1)d]$$

$$11 \quad T_n = ar^{n-1}$$

$$12 \quad S_n = \frac{a(r^n - 1)}{r - 1} = \frac{a(1 - r^n)}{1 - r}, r \neq 1$$

$$13 \quad S_\infty = \frac{a}{1-r}, |r| < 1$$

$$14 \quad y = uv, \quad \frac{dy}{dx} = u \frac{dv}{dx} + v \frac{du}{dx}$$

$$15 \quad y = \frac{u}{v}, \quad \frac{dy}{dx} = \frac{v \frac{du}{dx} - u \frac{dv}{dx}}{v^2}$$

$$16 \quad \frac{dy}{dx} = \frac{dy}{du} \times \frac{du}{dx}$$

$$17 \quad \text{Luas di bawah lengkung} \\ \text{Area under a curve} \\ = \int_a^b y \, dx \quad \text{atau (or)}$$

$$= \int_a^b x \, dy$$

$$18 \quad \text{Isipadu kisanan} \\ \text{Volume of revolution}$$

$$= \int_a^b \pi y^2 \, dx \quad \text{atau (or)}$$

$$= \int_a^b \pi x^2 \, dy$$

$$19 \quad I = \frac{Q_1}{Q_0} \times 100$$

$$20 \quad \bar{I} = \frac{\sum w_1 I_1}{\sum w_1}$$

$$21 \quad {}^n P_r = \frac{n!}{(n-r)!}$$

$$22 \quad {}^n C_r = \frac{n!}{(n-r)!r!}$$

$$23 \quad P(X=r) = {}^n C_r p^r q^{n-r}, p + q = 1$$

$$24 \quad \text{Min/ mean, } \mu = np$$

$$25 \quad \sigma = \sqrt{npq}$$

$$26 \quad Z = \frac{x - \mu}{\sigma}$$

$$27 \quad \text{Panjang lengkok, } s = j\theta \\ \text{Arc length, } s = j\theta$$

- 28 Luas sektor, $L = \frac{1}{2}r^2\theta$
Area of sector, $L = \frac{1}{2}r^2\theta$
- 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 $\sin 2A = 2 \sin A \cos A$
 $\sin 2A = 2 \sin A \cos A$
- 33 $\cos 2A = \cos^2 A - \sin^2 A$
 $= 2 \cos^2 A - 1$
 $= 1 - 2 \sin^2 A$
- 35 $\sin(A \pm B) = \sin A \cos B \pm \cos A \sin B$
 $\sin(A \pm B) = \sin A \cos B \pm \cos A \sin B$
- 36 $\cos(A \pm B) = \cos A \cos B \mp \sin A \sin B$
 $\cos(A \pm B) = \cos A \cos B \mp \sin A \sin B$
- 37 $\tan(A \pm B) = \frac{\tan A \pm \tan B}{1 \mp \tan A \tan B}$
- 38 $\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$
- 39 $a^2 = b^2 + c^2 - 2bc \cos A$
 $a^2 = b^2 + c^2 - 2bc \cos A$
- 40 Luas Segitiga / *Area of triangle*
 $= \frac{1}{2}ab \sin C$
- 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 Segitiga / *Area of triangle*
 $= \frac{1}{2} |(x_1y_2 + x_2y_3 + x_3y_1) - (x_2y_1 + x_3y_2 + x_1y_3)|$
- 43 $|r| = \sqrt{x^2 + y^2}$
- 44 $\hat{r} = \frac{x\hat{i} + y\hat{j}}{\sqrt{x^2 + y^2}}$

Bahagian A
[64 markah]

Jawab **semua** soalan.

1. Pembolehubah x dan y dihubungkan dengan persamaan $6y = 3(x+1)^2 - 5k$ di mana k ialah pemalar
The variable x dan y are related by the equation $6y = 3(x+1)^2 - 5k$ such k is a constant.
- (a) Apabila graf y melawan $(x+1)^2$ diplot, satu garis lurus melalui titik $(0,5)$ diperolehi. Cari nilai k . [2 markah]
When the graph of y against $(x+1)^2$ is plotted, a straight line passing through the point $(0,5)$ is obtained. Find the value of k . [2 marks]
- (b) Seterusnya, cari kecerunan dan pintasan - y bagi graf garis lurus $(y-x)$ melawan x^2 . [2 markah]
Hence, find the gradient and y - intercept for the straight line of the graph of $(y-x)$ against x^2 . [2 marks]

Jawapan /Answer :

2. (a) Diberi jangjang geometri $2, -\frac{4}{3}, \frac{8}{9}, \dots$, cari

Given the geometric progression $2, -\frac{4}{3}, \frac{8}{9}, \dots$, find

(i) nisbah sepunya
the common ratio

(ii) hasil tambah jangjang itu apabila $r^n \approx 0$.
the sum of the progression when $r^n \approx 0$.

[3 markah]

[3 marks]

(b) Sebutan pertama dan kedua suatu jangjang geometri masing – masing $\frac{h^3}{9}$ dan h . Cari nilai – nilai yang tidak mungkin bagi h selain daripada sifar.

[2 markah]

The first and second term of geometric progression is $\frac{h^3}{9}$ and h

respectively. Find the values, other than zero, that are not possible for h .

[2 marks]

Jawapan /Answer :

3. (a) Buktikan
Prove that

$${}^n P_r = ({}^n C_r)(r!)$$

[2 markah]

[2 marks]

- (b) Atiya telah menerima 8 biji manik yang berlainan warna daripada rakannya. Dia ingin membentuk seutas rantai dengan manik - manik itu. Cari bilangan rantai yang berlainan yang dapat dibentuk dengan menggunakan sekurang – kurangnya 6 daripada 8 manik tersebut.

[3 markah]

Atiya received 8 beads with different colours from her friend. She would like to make a necklace with these beads.

Find the number of different necklaces that can be made using at least 6 from the 8 beads.

[3 marks]

Jawapan /Answer :

4. (a) Diberi suatu persamaan $y = 3 \cos 2\theta$ bagi $0^\circ < \theta < 180^\circ$
Given the equation $y = 3 \cos 2\theta$ for $0^\circ < \theta < 180^\circ$
- i) Nyatakan amplitud
State the amplitude
- ii) Selesaikan persamaan $y = 3 \cos 2\theta$ apabila $y = 2$.
Solve the equation $y = 3 \cos 2\theta$ when $y = 2$. [4 markah]
 [4 marks]
- (b) Diberi bahawa $\cos A = -\frac{8}{17}$, dengan keadaan A ialah sudut refleks. Cari
 kot A. [2 markah]
It is given that $\cos A = -\frac{8}{17}$, where A is a reflect angle. Find cot A.
 [2 marks].

Jawapan/ Answer :

5. (a) Diberi $2^{3x} = 2p$, $2^y = q$ dan $2^{y+3x} = 5 + 8^x$. Ungkapkan p dalam sebutan q .
[3 markah]
It is given $2^{3x} = 2p$, $2^y = q$ and $2^{y+3x} = 5 + 8^x$. Express p in terms of q .
[3 marks]
- (b) Selesaikan persamaan $m + 4 = \sqrt{m + 10}$. [2 markah]
Solve the equation $m + 4 = \sqrt{m + 10}$. [2 marks]

Jawapan /Answer :

- 6 Fahmi adalah agen jualan bagi sebuah Syarikat Sabun Mandi. Dia menerima komisen 3% jika jualan melebihi RM 6 000, yang mana dibayar sebagai bonus pada akhir tahun.

Fahmi is a sales agent for a Bath Soap Company. He earns a 3% commission on total sales over RM 6 000, which is paid as a bonus at the end of the year.

Biar jumlah jualan diwakili oleh x . Diberi $f(x) = x - 6000$ dan $g(x) = 0.03x$

Let his total sales be represented by x . Given $f(x) = x - 6000$ and $g(x) = 0.03x$

- (a) Fungsi fg atau gf yang manakah akan mengira bonus beliau pada akhir tahun ini. Terangkan alasan anda. [2 markah]

Which of the function fg or gf would calculate her bonus at the end of the year? Explain your answer. [2 marks]

- (b) Hitung bonus jika Fahmi telah menjual sebanyak RM 10 500 pada akhir tahun ini. [2 markah]

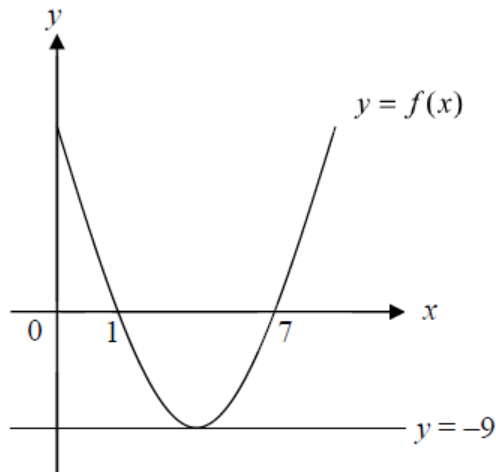
Calculate the bonus if Fahmi sold RM 10 500 at the end of this year.

[2 marks]

Jawapan /Answer :

7. (a) Rajah 1 menunjukkan graf fungsi kuadratik $y = f(x)$. Graf garis lurus $y = -9$ ialah tangen pada lengkung $y = f(x)$.

Diagram 1 shows the graph of a quadratic function $y = f(x)$. The straight line $y = -9$ is a tangent to the curve $y = f(x)$.



Rajah 1
Diagram 1

Ungkapkan $f(x)$ dalam bentuk $(x + p)^2 + q$, dengan kedudukan p dan q adalah pemalar jika graf tersebut dipantulkan pada paksi $-x$. [2 markah]

Express $f(x)$ in the form of $(x + p)^2 + q$, where p and q are constant if the graph is reflect about the x - axis. [2 marks]

- (b) Diberi $(-2, 5)$ ialah titik maksimum bagi graf fungsi kuadratik $f(x) = 3m - (2n + x)^2$, dengan keadaan m dan n adalah pemalar. Cari nilai m dan n . [3 markah]

Given $(-2, 5)$ is the maximum point of the graph of quadratic functions $f(x) = 3m - (2n + x)^2$, where m and n are constants. Determine the value of m and n . [3 marks]

Jawapan /*Answer* :

8. (a) Diberi $y = \frac{x^2}{x-1}$, tunjukkan bahawa $\frac{dy}{dx} = \frac{x(x-2)}{(x-1)^2}$. Seterusnya, cari nilai

$$\int_0^2 \frac{4x(x-2)}{(x-1)^2} dx. \quad [3 \text{ markah}]$$

Given that $y = \frac{x^2}{x-1}$, show that $\frac{dy}{dx} = \frac{x(x-2)}{(x-1)^2}$. Hence, find the value of

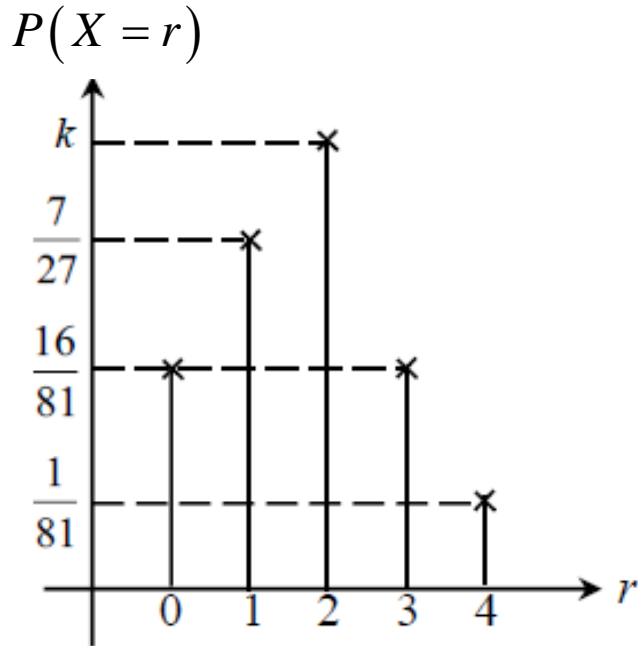
$$\int_0^2 \frac{4x(x-2)}{(x-1)^2} dx. \quad [3 \text{ marks}]$$

- (b) Diberi $\frac{d^2y}{dx^2} = 12x + 5$, apabila $x = -1$, $y = -2$ dan $\frac{dy}{dx} = 1$. Cari y dalam sebutan x . [3 markah]

Given that $\frac{d^2y}{dx^2} = 12x + 5$, apabila $x = -1$, $y = -2$ and $\frac{dy}{dx} = 1$, find y in terms of x . [3 marks]

Jawapan /Answer :

9. (a) Rajah 2 menunjukkan kebarangkalian bagi taburan binomial $X \sim B(4, p)$.
 Diagram 2 shows the probability of the binomial distribution $X \sim B(4, p)$.



Rajah 2
Diagram 2

Cari nilai bagi k dan p .
 Find the value of k and p .

[3 markah]
[3 marks]

- (b) Z ialah pemboleh ubah rawak selanjar bagi suatu taburan normal. Diberi $P(|Z| < h) = 8P(Z \leq -h)$. Cari

Z is a continuous random variable of a normal distribution. Given that $P(|Z| < h) = 8P(Z \leq -h)$. Find

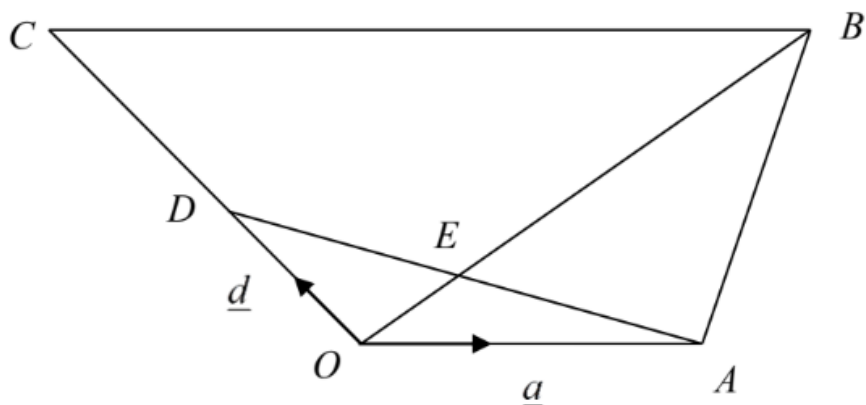
- (i) $P(Z < h)$
 (ii) nilai h
 the value of h .

[3 markah]
[3 marks]

Jawapan /*Answer* :

10. Rajah 3 menunjukkan sisi empat $OABC$ dengan keadaan garis OB bersilang dengan AD di E .

Diagram 3 shows a quadrilateral $OABC$ such OB intersects AD at E .



Rajah 3
Diagram 3

Diberi $OA : CB = 1 : 2$, $OC : OD = 3 : 1$, $\overrightarrow{AE} = m \overrightarrow{AD}$ dan $\overrightarrow{OE} = n \overrightarrow{OB}$.

Given $OA : CB = 1 : 2$, $OC : OD = 3 : 1$, $\overrightarrow{AE} = m \overrightarrow{AD}$ and $\overrightarrow{OE} = n \overrightarrow{OB}$.

- (a) Tunjukkan $\overrightarrow{OE} = m\vec{d} + (1-m)\vec{a}$. [2 markah]

Show that $\overrightarrow{OE} = m\vec{d} + (1-m)\vec{a}$. [2 marks]

- (b) Cari
Find

- (i) nilai m dan nilai n ,
the value of m and of n ,

- (ii) nisbah bagi $DE : EA$
the ratio of $DE : EA$

[6 markah]
[6 marks]

Jawapan /*Answer* :

11. Selesaikan persamaan $\log_2 y = 4\log_y 2$.

[4 markah]

Solve the equation $\log_2 y = 4\log_y 2$.

[4 marks]

Jawapan /Answer :

12. (a) (i) Titik – titik $P(1,-1)$, $M(p,q)$ dan $Q(6,4)$ terletak pada satu garis lurus dengan keadaan $PM : MQ = 2 : 3$ dan p serta q ialah pemalar. Cari nilai p dan q .
The points $P(1,-1)$, $M(p,q)$ and $Q(6,4)$ lie on a straight line such that $PM : MQ = 2 : 3$ and p and q are constant. Find the value of p and q .
- (ii) Garis lurus $y = 3x + 12$ adalah selari dengan garis lurus $y = (r + 4)x + 9$ dengan keadaan r ialah pemalar. Tentukan nilai r .
The straight line $y = 3x + 12$ is parallel to the straight line $y = (r + 4)x + 9$, where r is a constant. Determine the value of r .
- [4 markah]
[4 marks]
- (b) Diberi titik – titik $S(x,2)$, $T(3,4)$ dan $U(11,8)$ adalah segaris. Cari nilai bagi x .
Given that the points $S(x,2)$, $T(3,4)$ and $U(11,8)$ are collinear. Find the value of x .
- [2 markah]
[2 marks]

Jawapan /Answer :

Jawapan /*Answer* :

Bahagian B
[16 markah]

Jawab **mana- mana dua** soalan.

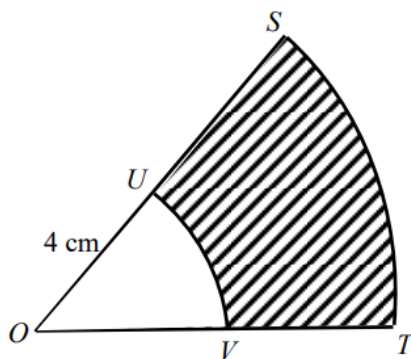
13. Diberi suatu persamaan lengkung ialah $y = x^2 \left(3 - \frac{2}{3}x \right) + \frac{1}{2}$.

Given the equation of a curve is $y = x^2 \left(3 - \frac{2}{3}x \right) + \frac{1}{2}$.

- (a) Cari koordinat titik – titik pegun. [3 markah]
Find the coordinates of the stationary points. [3 marks]
- (b) Seterusnya, tentukan sama ada setiap titik pegun itu maksimum atau minimum. [2 markah]
Hence, determine whether each of stationary points is a maximum or a minimum. [2 marks]
- (c) Jika x meningkat dari 2 ke 2.01, cari nilai hampir bagi y . [3 markah]
If x increase from 2 to 2.01, find the approximate value in y . [3 marks]

Jawapan /Answer :

14. (a) Dalam Rajah 4, OST dan OUV ialah sektor bagi dua bulatan berpusat O . Nisbah bagi luas sektor OUV kepada luas kawasan berlorek ialah $1:8$.
In diagram 4, OST dan OUV are sector of two circle with centre O . The ratio of the area of sector OUV to the area of shaded region is $1:8$.



Rajah 4
 Diagram 4

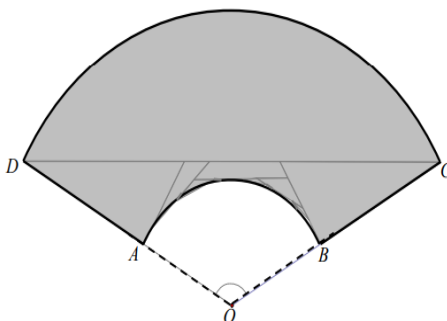
Diberi $OU = 4$ cm dan luas sector OUV ialah 6 cm^2 , cari
 Given that $OU = 4$ cm and the area sector OUV is 6 cm^2 , find

- (i) $\angle SOT$ dalam radian,
 $\angle SOT$ in radians,
 (ii) panjang SU
 the length of SU

[4 markah]
 [4 marks]

- (b) Rajah 5 menunjukkan sekeping kertas $ABCD$ yang berbentuk kipas. O ialah pusat bagi lengkok AB dan CD .

Diagram 5 shows a piece of fan-shaped paper $ABCD$. O is the centre of arc AB and CD .



Rajah 5
Diagram 5

Diberi bahawa $\angle COD = 2.65$ radian, $3OB = 2BC$ dan $OC = 30$ cm. Cari

It is given that $\angle COD = 2.65$ radian, $3OB = 2BC$ and $OC = 30$ cm. Find

- (i) luas kertas yang berbentuk kipas, dalam cm^2 .
the area of the fan-shaped paper, in cm^2 .
- (ii) bilangan maksimum kertas berbentuk kipas boleh dibentuk daripada sehelai kertas dengan luasnya 8000 cm^2 .
the maximum number of fan-shaped paper can be made by using a piece of paper with the area of 8000 cm^2 .

[4 markah]

[4 marks]

Jawapan /Answer :

SULIT

YIK-MAT TAMBAHAN TKT 5-PERCUBAAN SPM 2022

Lihat sebelah

15. Diberi bahawa fungsi $f(x) = 2x^2 - nx + p$ mempunyai titik minimum pada $(1, -7)$.

Given that the function $f(x) = 2x^2 - nx + p$ has a minimum point at $(1, -7)$.

- (a) Cari nilai n dan p . [4 markah]
Find the value of n and of p . [4 marks]

- (b) Lakarkan graf fungsi $f(x)$. [2 markah]
Sketch the graph of the function $f(x)$. [2 marks]

- (c) Seterusnya, cari julat nilai h jika fungsi $f(x) = h$ mempunyai dua punca berbeza.

[2 markah]

Hence, find the range of the value of h if the function $f(x) = h$ has two distinct roots. [2 marks]

Jawapan /Answer :

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										Minus / Tolak									
	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
			0.0 ⁹ 90		0.0 ⁹ 64	0.0 ⁹ 39	0.0 ⁹ 14				3	5	8	10	13	15	18	20	23
								0.0 ⁸ 89	0.0 ⁸ 66	0.0 ⁸ 42	2	5	7	9	12	14	16	16	21
2.4	0.0 ⁸ 20	0.0 ⁷ 98	0.0 ⁷ 76	0.0 ⁷ 55	0.0 ⁷ 34						2	4	6	8	11	13	15	17	19
						0.0 ⁷ 14	0.0 ⁶ 95	0.0 ⁶ 76	0.0 ⁶ 57	0.0 ⁶ 39	2	4	6	7	9	11	13	15	17
2.5	0.0 ⁶ 21	0.0 ⁶ 04	0.0 ⁵ 87	0.0 ⁵ 70	0.0 ⁵ 54	0.0 ⁵ 39	0.0 ⁵ 23	0.0 ⁵ 08	0.0 ⁴ 94	0.0 ⁴ 80	2	3	5	6	8	9	11	12	14
2.6	0.0 ⁴ 66	0.0 ⁴ 53	0.0 ⁴ 40	0.0 ⁴ 27	0.0 ⁴ 15	0.0 ⁴ 02	0.0 ³ 91	0.0 ³ 79	0.0 ³ 68	0.0 ³ 57	1	2	3	5	6	7	9	9	10
2.7	0.0 ³ 47	0.0 ³ 36	0.0 ³ 26	0.0 ³ 17	0.0 ³ 07	0.0 ² 98	0.0 ² 89	0.0 ² 80	0.0 ² 72	0.0 ² 64	1	2	3	4	5	6	7	8	9
2.8	0.0 ² 56	0.0 ² 48	0.0 ² 40	0.0 ² 33	0.0 ² 26	0.0 ² 19	0.0 ² 12	0.0 ² 05	0.0 ¹ 99	0.0 ¹ 93	1	1	2	3	4	4	5	6	6
2.9	0.0 ² 187	0.0 ² 181	0.0 ² 175	0.0 ² 169	0.0 ² 164	0.0 ² 159	0.0 ² 154	0.0 ² 149	0.0 ² 144	0.0 ² 139	0	1	1	2	2	3	3	4	4
3.0	0.0 ² 135	0.0 ² 131	0.0 ² 126	0.0 ² 122	0.0 ² 118	0.0 ² 114	0.0 ² 111	0.0 ² 107	0.0 ² 104	0.0 ² 100	0	1	1	2	2	2	3	3	4

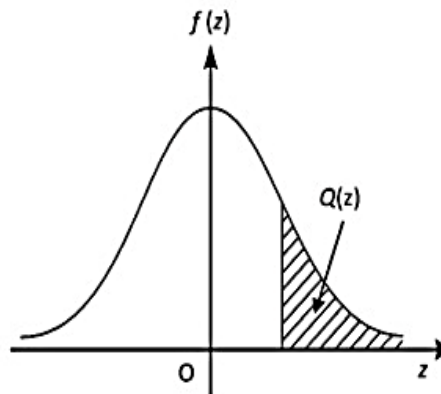
Bagi z negative guna hubungan:

For negative z use relation:

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

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

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



Example / Contoh:

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

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

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

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