



**BAHAGIAN PENGURUSAN SEKOLAH BERASRAMA PENUH
DAN SEKOLAH KLUSTER
KEMENTERIAN PELAJARAN MALAYSIA**

PEPERIKSAAN PERCUBAAN SELARAS SPM 2009

3472 / 1

ADDITIONAL MATHEMATICS

Kertas 1

Ogos 2009

2 jam

Dua jam

**JANGAN BUKA KERTAS SOALAN INI
SEHINGGA DIBERITAHU**

1. *Tulis nama dan tingkatan anda pada ruangan yang disediakan.*
2. *Kertas soalan ini adalah dalam dwibahasa.*
3. *Soalan dalam bahasa Inggeris mendahului soalan yang sepadan dalam bahasa Melayu.*
4. *Calon dibenarkan menjawab keseluruhan atau sebahagian soalan sama ada dalam bahasa Inggeris atau bahasa Melayu.*
5. *Calon dikehendaki membaca maklumat di halaman belakang kertas soalan ini.*

<i>Untuk Kegunaan Pemeriksa</i>		
Soalan	Markah Penuh	Markah Diperolehi
1	2	
2	4	
3	4	
4	3	
5	2	
6	3	
7	3	
8	3	
9	4	
10	3	
11	3	
12	4	
13	3	
14	3	
15	3	
16	3	
17	4	
18	4	
19	3	
20	3	
21	3	
22	3	
23	3	
24	3	
25	4	
TOTAL	80	

Kertas soalan ini mengandungi 18 halaman bercetak

Dapatkan skema Jawapan di Laman

3472/1 2009 Hak Cipta SBP

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The following formulae may be helpful in answering the questions. The symbols given are the ones commonly used.

ALGEBRA

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

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

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

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

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

$$6 \quad \log_a \frac{m}{n} = \log_a m - \log_a n$$

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

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

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

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

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

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

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

CALCULUS

$$1 \quad y = uv, \quad \frac{dy}{dx} = u \frac{dv}{dx} + v \frac{du}{dx}$$

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

$$3 \quad \frac{dy}{dx} = \frac{dy}{du} \times \frac{du}{dx}$$

4 Area under a curve

$$= \int_a^b y \, dx \quad \text{or}$$

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

5 Volume generated

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

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

GEOMETRY

$$1 \quad \text{Distance} = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

2 Midpoint

$$(x, y) = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$$

$$3 \quad |r| = \sqrt{x^2 + y^2}$$

$$4 \quad \hat{r} = \frac{xi + yj}{\sqrt{x^2 + y^2}}$$

5 A point dividing a segment of a line

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

6 Area of triangle

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

STATISTIC

$$1 \quad \bar{x} = \frac{\sum x}{N}$$

$$2 \quad \bar{x} = \frac{\sum fx}{\sum f}$$

$$3 \quad \sigma = \sqrt{\frac{\sum (x - \bar{x})^2}{N}} = \sqrt{\frac{\sum x^2}{N} - \bar{x}^2}$$

$$4 \quad \sigma = \sqrt{\frac{\sum f(x - \bar{x})^2}{\sum f}} = \sqrt{\frac{\sum fx^2}{\sum f} - \bar{x}^2}$$

$$5 \quad m = L + \left[\frac{\frac{1}{2}N - F}{f_m} \right] C$$

$$6 \quad I = \frac{Q_1}{Q_0} \times 100$$

$$7 \quad \bar{I} = \frac{\sum w_1 I_1}{\sum w_1}$$

$$8 \quad {}^n P_r = \frac{n!}{(n-r)!}$$

$$9 \quad {}^n C_r = \frac{n!}{(n-r)!r!}$$

$$10 \quad P(A \cup B) = P(A) + P(B) - P(A \cap B)$$

$$11 \quad P(X = r) = {}^n C_r p^r q^{n-r}, \quad p + q = 1$$

$$12 \quad \text{Mean } \mu = np$$

$$13 \quad \sigma = \sqrt{npq}$$

$$14 \quad z = \frac{x - \mu}{\sigma}$$

TRIGONOMETRY

$$1 \quad \text{Arc length, } s = r\theta$$

$$2 \quad \text{Area of sector, } L = \frac{1}{2} r^2 \theta$$

$$3 \quad \sin^2 A + \cos^2 A = 1$$

$$4 \quad \sec^2 A = 1 + \tan^2 A$$

$$5 \quad \operatorname{cosec}^2 A = 1 + \cot^2 A$$

$$6 \quad \sin 2A = 2 \sin A \cos A$$

$$7 \quad \begin{aligned} \cos 2A &= \cos^2 A - \sin^2 A \\ &= 2 \cos^2 A - 1 \\ &= 1 - 2 \sin^2 A \end{aligned}$$

$$8 \quad \tan 2A = \frac{2 \tan A}{1 - \tan^2 A}$$

$$9 \quad \sin(A \pm B) = \sin A \cos B \pm \cos A \sin B$$

$$10 \quad \cos(A \pm B) = \cos A \cos B \mp \sin A \sin B$$

$$11 \quad \tan(A \pm B) = \frac{\tan A \pm \tan B}{1 \mp \tan A \tan B}$$

$$12 \quad \frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$$13 \quad a^2 = b^2 + c^2 - 2bc \cos A$$

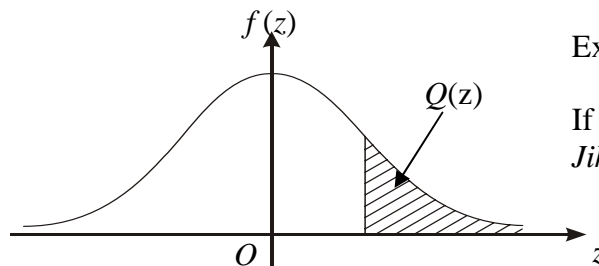
$$14 \quad \text{Area of triangle} = \frac{1}{2} ab \sin C$$

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

z	0	1	2	3	4	5	6	7	8	9	Minus / Tolak								
											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

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

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



Example / Contoh:

If $X \sim N(0, 1)$, then $P(X > k) = Q(k)$
 Jika $X \sim N(0, 1)$, maka $P(X > k) = Q(k)$

Dapatkan skema Jawapan di Laman

Answer **all** questions.

- 1 Diagram 1 shows a function that maps set A to set B.
Rajah 1 menunjukkan fungsi yang memeta set A ke set B.

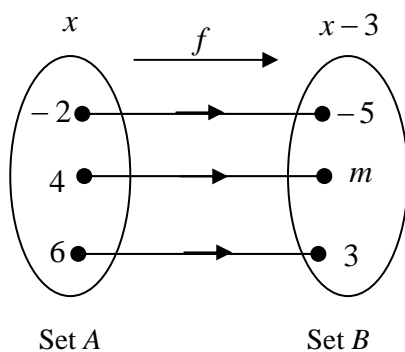


Diagram 1
Rajah 1

It is given that the function that maps set A to set B is $f : x \rightarrow x - 3$.
Diberi bahawa fungsi yang memeta set A ke set B ialah $f : x \rightarrow x - 3$.

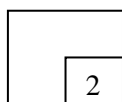
Find
Cari

- (a) the value of m ,
nilai m ,
(b) the value of $ff^{-1}(3)$.
nilai $ff^{-1}(3)$.

[2 marks]
[2markah]

Answer/Jawapan : (a)
(b).....

1



- 2 Given that $g : x \rightarrow \frac{4}{x}$, $x \neq 0$ and the composite function $gf : x \rightarrow x + 2$, find

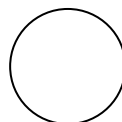
Diberi $g : x \rightarrow \frac{4}{x}$, $x \neq 0$ dan fungsi gubahan $gf : x \rightarrow x + 2$, cari

- (a) $f(x)$,
(b) the value of x when $fg(x) = 6$.
nilai bagi x bila $fg(x) = 6$.

[4 marks]
[4 markah]

Answer/Jawapan : (a)
(b).....

2



Dapatkan skema Jawapan di Laman

3 Given that $f : x \rightarrow 8 - px$ and $g^{-1} : x \rightarrow \frac{6-2x}{5}$,

Diberi $f : x \rightarrow 8 - px$ dan $g^{-1} : x \rightarrow \frac{6-2x}{5}$,

find
cari

(a) $g(x)$,

(b) the value of p if $g(x-2) = f(x)$.
nilai p jika $g(x-2) = f(x)$.

[4 marks]
[4 markah]

Answer/Jawapan : (a)

(b)

3
4

4 Given that $x = 2$ and $x = -\frac{1}{3}$ are the roots of the equation $3x^2 + bx + c = 0$, find the value of b and the value of c .

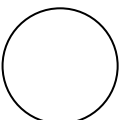
Diberi $x = 2$ dan $x = -\frac{1}{3}$ ialah punca-punca persamaan $3x^2 + bx + c = 0$, cari nilai b dan nilai c .

[3 marks]
[3 markah]

Answer/ Jawapan : $b = \dots\dots\dots c = \dots\dots\dots$

4
3

Dapatkan skema Jawapan di Laman



- 5 Find the range of values of x for $x^2 + 20 < 9x$.
Cari julat nilai x bagi $x^2 + 20 < 9x$.

[2 marks]
[2 markah]

5

2

Answer/Jawapan :.....

- 6 Given quadratic function $f(x) = -[(x + 6p)^2 - 5] + q$ has a maximum point $T(-3n, 15n^2)$.
Diberi fungsi kuadratik $f(x) = -[(x + 6p)^2 - 5] + q$ mempunyai titik maksimum. $T(-3n, 15n^2)$.
Express q in terms p .
Nyatakan q dalam sebutan p .

[3 marks]
[3 markah]

6

3

Answer /Jawapan:

- 7 Solve the equation $25^{x+2} = \frac{1}{625^x}$.
Selesaikan persamaan $25^{x+2} = \frac{1}{625^x}$.

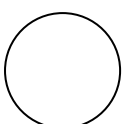
[3 marks]
[3 markah]

7

3

Answer /Jawapan:

Dapatkan skema Jawapan di Laman



*For
examiner's
use only*

- 8** Solve the equation $\log_3 x - \log_3(x - 2) = -1$.
Selesaikan persamaan $\log_3 x - \log_3(x - 2) = -1$.

[3 marks]
[3 markah]

Answer/Jawapan :

8

3

- 9** Given $\log_5 2 = h$ and $\log_5 3 = k$, express $\log_{12} 90$ in terms of h and k .
Diberi $\log_5 2 = h$ dan $\log_5 3 = k$, ungkapkan $\log_{12} 90$ dalam sebutan h dan k .

[4 marks]
[4 markah]

Answer/ Jawapan :

9

4

- 10** It is given an arithmetic progression is 5 , 7 , 9 ,, 87. Find the number of terms of this progression.
Diberi bahawa suatu jangjang aritmetik ialah 5 , 7 , 9 ,, 87 . Cari ilangan sebutan dalam jangjang itu..

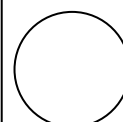
[3 marks]
[3 markah]

Answer/Jawapan:

Dapatkan skema Jawapan di Laman

10

3



11 It is given the first three terms of a geometric series are $\frac{1}{9} + \frac{1}{27} + \frac{1}{81} + \dots$. Find the sum to infinity of the series.

Diberi bahawa tiga sebutan pertama dalam siri geometri ialah $\frac{1}{9} + \frac{1}{27} + \frac{1}{81} + \dots$. Cari

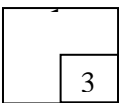
hasil tambah hingga sebutan ketakterhinggaan siri itu..

[3 marks]

[3 markah]

Answer/Jawapan: :

11



12 The variables x and y are related by the equation $y = px^2 + 2x + 5q$, where p and q are constants.

Diagram 12 shows a straight line graph $(y - 2x)$ against x^2 .

Pembolehubah x dan y dihubungkan oleh persamaan $y = px^2 + 2x + 5q$, dengan keadaan p dan q ialah pemalar.

Rajah 12 menunjukkan graph $(y - 2x)$ melawan x^2 .

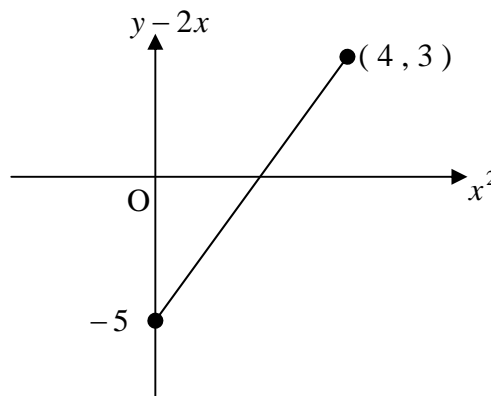


Diagram 12
Rajah 12

Find the value of p and of q .

Cari nilai p dan nilai q .

[4 marks]

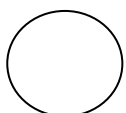
[4 markah]

Answer : $p = \dots \dots \dots q = \dots \dots \dots$

Dapatkan skema Jawapan di Laman

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12



13 Diagram 13 shows a straight line PQ with the equation $\frac{y}{8} - \frac{x}{6} = 1$.

Rajah 13 menunjukkan garis lurus PQ yang mempunyai persamaan $\frac{y}{8} - \frac{x}{6} = 1$.

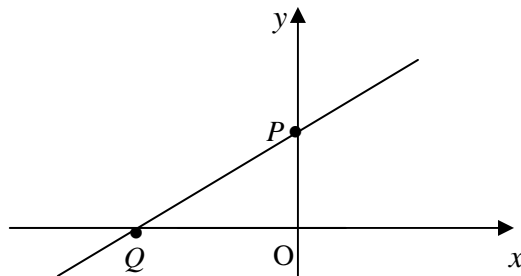


Diagram 13
Rajah 13

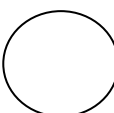
Find the equation of the straight line which is perpendicular to PQ and passes through the point Q .

Cari persamaan garislurus yang berserenjang dengan PQ dan melalui titik Q .

[3 marks]
[3 markah]

Answer/Jawapan :

Dapatkan skema Jawapan di Laman



14 Diagram 14 shows A, B and C are three points on a straight line .

Rajah 14 menunjukkan A , B dan C merupakan tiga titik yang terletak di atas garis lurus.

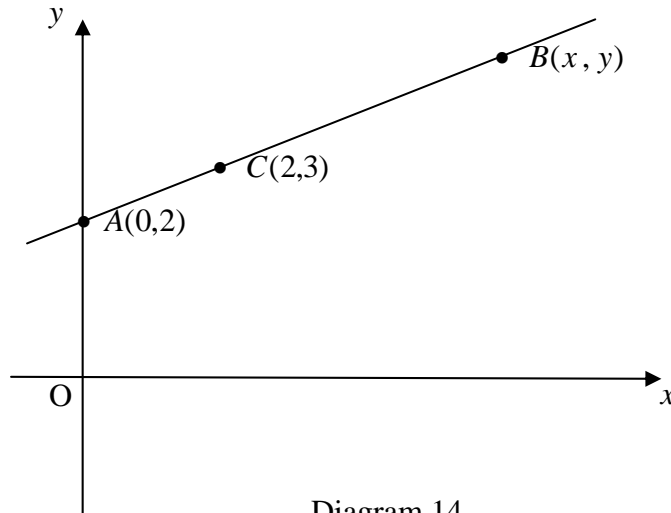


Diagram 14
Rajah 14

It is given that $5AC = AB$. Find the coordinates of B.
Diberi $5AC = CB$. Cari koordinat B.

[3 marks]
[3 markah]

Answer/Jawapan :

14

3

15 Given $\vec{PQ} = 3\tilde{x} - 2\tilde{y}$ and $\vec{QR} = (1-h)\tilde{x} + 4\tilde{y}$. The points P , Q and R are collinear.

Diberi $\vec{PQ} = 3\tilde{x} - 2\tilde{y}$ dan $\vec{QR} = (1-h)\tilde{x} + 4\tilde{y}$. Titik-titik P , Q dan R adalah segaris.

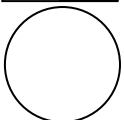
Find the value of h .
Cari nilai h .

[3 marks]
[3 markah]

Answer/Jawapan :

15

3



Dapatkan skema Jawapan di Laman

- 16** *Solution by graph is not accepted for this question.
Penyelesaian secara graf tidak diterima bagi soalan ini.*

Diagram 16 shows $OABC$ is a parallelogram such that $\vec{OA} = 4\vec{i} + 3\vec{j}$ and $\vec{OB} = 11\vec{i} + 5\vec{j}$.

Rajah 16 menunjukkan $OABC$ ialah sebuah segiempat selari dengan keadaan $\vec{OA} = 4\vec{i} + 3\vec{j}$ dan $\vec{OB} = 11\vec{i} + 5\vec{j}$.

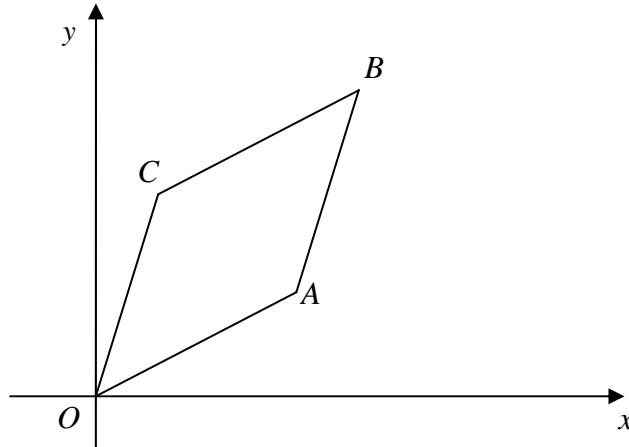


Diagram 16
Rajah 16

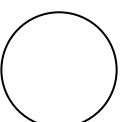
Find the unit vector in the direction of \vec{OC} .

Cari vektor unit pada arah \vec{OC} .

[3 marks]
[3 markah]

Answer/Jawapan:.....

Dapatkan skema Jawapan di Laman



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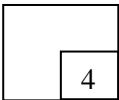
17 Solve the equation $3\cos^2 x + \sin 2x = 0$ for $0^\circ \leq x \leq 360^\circ$

Selesaikan persamaan $3\cos^2 x + \sin 2x = 0$ bagi $0^\circ \leq x \leq 360^\circ$

[4 marks]
[4 markah]

Answer / Jawaban :

17



18 Diagram 18 shows a semicircle PQR with center O .

Rajah 18 menunjukkan sebuah semibulatan PQR berpusat O .

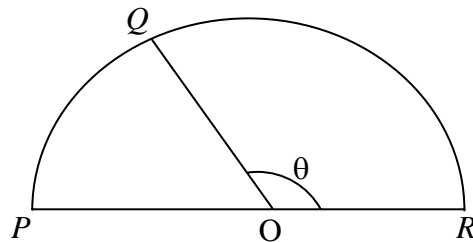


Diagram 18
Rajah 18

It is given that the arc length PQ is 6.5 cm and the radius of the semicircle is 5 cm.
Diberi bahawa panjang lengkung PQ ialah 6.5 cm dan jejari semibulatan ialah 5 cm.
[Use / Guna $\pi = 3.142$]

Find
Cari

- (a) the value of θ in radian ,
nilai θ dalam radian,
- (b) area , in cm^2 , of sector QOR .
luas , dalam cm^2 , sektor QOR .

[4 marks]
[4 markah]

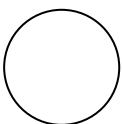
Answer / Jawaban : (a)

(b).....

Dapatkan skema Jawapan di Laman

[Lihat sebelah
SULIT

18



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- 19** Given that $f(x) = x^3(5 - 3x)^2$, find $f'(2)$.
Diberi $f(x) = x^3(5 - 3x)^2$, cari $f'(2)$.

[3 marks]
[3 markah]

Answer/Jawapan :

19

3

- 20** Two variables P and x are related by the equation $P = 3x + \frac{2}{x}$. Given x increases at a constant rate of 4 units per second when $x = 2$, find the rate of change of P .

Dua pembolehubah P dan x dihubungkan dengan persamaan $P = 3x + \frac{2}{x}$.

Diberi x bertambah dengan kadar malar 4 unit sesaat apabila $x = 2$, cari kadar perubahan bagi P .

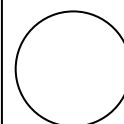
[3 marks]
[3 markah]

Answer / Jawapan :

Dapatkan skema Jawapan di Laman

20

3



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examiner's
use only

21 Given $y = \frac{h}{(2x-5)^3}$ and $\frac{dy}{dx} = g(x)$, find the value of h if $\int_2^3 [g(x)+1]dx = 7$.

Diberi $y = \frac{h}{(2x-5)^3}$ dan $\frac{dy}{dx} = g(x)$, cari nilai bagi h jika $\int_2^3 [g(x)+1]dx = 7$.

[3 marks]
[3 markah]

21

3

Answer/Jawapan:

22 The mean of a set of data $2m - 3, 8, m+1$ is 7.
Min bagi set data $2m - 3, 8, m+1$ ialah 7.

Find
Cari

- (a) the value of m ,
nilai m ,
- (b) the new mean if each of the data multiplied by 3.
Cari min yang baru jika setiap data didarabkan dengan 3.

[3 marks]
[3 markah]

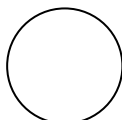
22

3

Answer /Jawapan (a)

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- (b).....
- 23 Bag A contains 1 green pen, 2 red pens and 3 blue pens. Bag B contains 2 black erasers and 3 white erasers. Bag C contains 6 gift cards labeled 1, 2, 3, 4, 5 and 6. An item is picked randomly from each bag.

Beg A mengandungi 1 pen hijau, 2 pen merah dan 3 pen biru. Beg B mengandungi 2 pemadam hitam dan 3 pemadam putih. Beg C mengandungi 6 kad hadiah yang dilabel 1, 2, 3, 4, 5 dan 6. Satu item diambil secara rawak daripada setiap beg.

Find the probability of getting a blue pen, a black eraser and a gift card with a number less than 3.

Cari kebarangkalian mendapat satu pen biru, satu pemadam hitam dan satu kad hadiah yang berlabel nombor kurang daripada 3.

[3 marks]
[3 markah]

Answer /Jawapan:

23

3

- 24 The probability that it will rain on a particular day is $\frac{2}{5}$.
If X is the number of rainy days in a week, find

Kebarangkalian bahawa hujan akan turun pada sebarang hari ialah $\frac{2}{5}$.

Jika X ialah bilangan hari hujan turun dalam seminggu, cari

- (a) the mean of the distribution of X,
min bagi taburan X,
- (b) the standard deviation of the distribution of X.
sisihan piawai bagi taburan X.

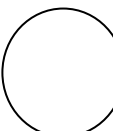
[3 marks]
[3 markah]

Answer/ Jawapan: (a).....

Dapatkan skema Jawapan di Laman

24

3



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(b)

25 Diagram 25 shows a standardized normal distribution graph.
Rajah 25 menunjukkan satu graf taburan normal piawai.

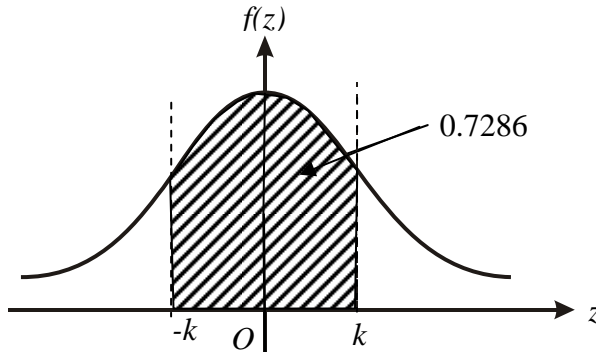


Diagram 25
Rajah 25

The probability represented by the area of the shaded region is 0.7286.
Kebarangkalian yang diwakili oleh luas kawasan berlorek ialah 0.7286.

- (a) Find the value of k ,
Cari nilai k ,
- (b) X is a continuous random variable which is normally distributed with a mean of μ and a standard deviation of 8. Find the value of μ if $X = 70$ when the z -score is k .

X ialah pembolehubah rawak selanjur bertaburan secara normal dengan min μ dan sisihan piawai 8. Cari nilai μ jika $X = 70$ apabila skor- z ialah k .

[4 marks]
[4 markah]

Answer/Jawapan : (a).....

(b)

Dapatkan skema Jawapan di Laman

25

4

**END OF THE QUESTION PAPER
INFORMATION FOR CANDIDATES
MAKLUMAT UNTUK CALON**

1. This question paper consists of **25** questions
Kertas soalan ini mengandungi 25 soalan
2. Answer **all** questions.
Jawab semua soalan
3. Write your answers in the spaces provided in the question paper.
Tulis jawapan anda dalam ruang yang disediakan dalam kertas soalan.
4. Show your working. It may help you to get marks.
Tunjukkan langkah-langkah penting dalam kerja mengira anda. Ini boleh membantu anda untuk mendapatkan markah.
5. If you wish to change your answer, cross out the answer that you have done.
Then write down the new answer.
*Sekiranya anda hendak menukar jawapan, batalkan jawapan yang telah dibuat.
Kemudian tulis jawapan yang baru.*
6. The diagrams in the questions provided are not drawn to scale unless stated.
Rajah yang mengiringi soalan tidak dilukis mengikut skala kecuali dinyatakan.
7. The marks allocated for each question are shown in brackets.
Markah yang diperuntukkan bagi setiap soalan ditunjukkan dalam kurungan.
8. A list of formulae is provided on pages 3 to 5.
Satu senarai rumus disediakan di halaman 3 hingga 5.
9. A booklet of four-figure mathematical tables is provided.
Sebuah buku sifir matematik empat angka disediakan.
10. You may use a non-programmable scientific calculator.
Anda dibenarkan menggunakan kalkulator saintifik yang tidak boleh diprogram.
11. Hand in this question paper to the invigilator at the end of the examination.
Serahkan kertas soalan ini kepada pengawas peperiksaan di akhir peperiksaan.

Dapatkan skema Jawapan di Laman