

**SULIT**  
**PEPERIKSAAN**  
**PERCUBAAN SPM 2012**  
**ADDITIONAL**  
**MATHEMATICS**  
**Kertas 1**  
**Ogos 2012**  
**2 jam**

**NAMA :** .....

**3472/1**

**TINGKATAN :** .....



**JABATAN PELAJARAN NEGERI TERENGGANU**

**PEPERIKSAAN PERCUBAAN SPM 2012**

**3472/1**

**ADDITIONAL MATHEMATICS**

**Kertas 1**

**Ogos 2012**

**2 jam**

**JANGAN BUKA KERTAS SOALAN INI  
 SEHINGGA DIBERITAHU**

1. *Tulis Nama dan Tingkatan pada ruang 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 dalam bahasa Melayu.*
5. *Calon dikehendaki membaca maklumat di halaman belakang kertas soalan ini.*

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

*Disediakan oleh:* AKRAM NEGERI TERENGGANU     *Dengan Kerjasama:* MPSM NEGERI TERENGGANU     *Dibiayai oleh:* KERAJAAN NEGERI TERENGGANU

**TERENGGANU NEGERI ANJUNG ILMU**

*Dicetak oleh:*  
 Percetakan Yayasan Islam Terengganu Sdn. Bhd.  
 Tel: 609-666 8611/6652/8601 Faks: 609-666 0611/0063

Kertas soalan ini mengandungi 28 halaman bercetak

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

Rumus-rumus berikut boleh membantu anda menjawab soalan. Simbol-simbol yang diberi adalah yang biasa digunakan.

### ALGEBRA

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.  $(a^m)^n = a^{m \cdot n}$
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.  $S_n = \frac{n}{2} \{2a + (n-1)d\}$
11.  $T_n = ar^{n-1}$
12.  $S_n = \frac{a(r^n - 1)}{r - 1} = \frac{a(1 - r^n)}{1 - r}, r \neq 1$
13.  $S_\infty = \frac{a}{1 - r}, |r| < 1$

---

### CALCULUS / KALKULUS

1.  $y = uv$   

$$\frac{dy}{dx} = u \frac{dv}{dx} + v \frac{du}{dx}$$
2.  $y = \frac{u}{v}, \frac{dy}{dx} = \frac{v \frac{du}{dx} - u \frac{dv}{dx}}{v^2}$
3.  $\frac{dy}{dx} = \frac{dy}{du} \times \frac{du}{dx}$
4. Area under a curve  
*Luas di bawah lengkung*  

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

$$= \int_a^b x \, dy$$
5. Volume generated  
*Isipadu janaan*  

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

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

## STATISTICS / STATISTIK

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

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

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

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

5.  $m = L + \left( \frac{\frac{1}{2}N - F}{f_m} \right) C$

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

7.  $\bar{I} = \frac{\sum W_i I_i}{\sum W_i}$

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

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

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

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

12. Mean / Min =  $np$

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

14.  $Z = \frac{X - \mu}{\sigma}$

## GEOMETRI (GEOMETRY)

1. Distance / Jarak

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

2. Midpoint / Titik tengah

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

3. A point dividing a segment of a line

Titik yang membahagi suatu tembereng garis

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

4. Area of triangle / Luas segi tiga

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

5.  $|r| = \sqrt{x^2 + y^2}$

6.  $\hat{r} = \frac{x\mathbf{i} + y\mathbf{j}}{\sqrt{x^2 + y^2}}$

## TRIGONOMETRY / TRIGONOMETRI

1. Arc length,  $s = r\theta$   
*Panjang lengkok,  $s = j\theta$*
2. Area of sector =  $\frac{1}{2} r^2 \theta$   
*Luas sektor,  $L = \frac{1}{2} j^2 \theta$*
3.  $\sin^2 A + \cos^2 A = 1$   
 $\sin^2 A + \text{kos}^2 A = 1$
4.  $\sec^2 A = 1 + \tan^2 A$   
 $\text{sek}^2 A = 1 + \tan^2 A$
5.  $\text{cosec}^2 A = 1 + \cot^2 A$   
 $\text{kosek}^2 A = 1 + \text{kot}^2 A$
6.  $\sin 2A = 2 \sin A \cos A$   
 $\sin 2A = 2 \sin A \text{kos} A$
7.  $\cos 2A = \cos^2 A - \sin^2 A$   
 $= 2 \cos^2 A - 1$   
 $= 1 - 2 \sin^2 A$   
 $\text{kos } 2A = \text{kos}^2 A - \sin^2 A$   
 $= 2 \text{kos}^2 A - 1$   
 $= 1 - 2 \sin^2 A$
8.  $\sin(A \pm B) = \sin A \cos B \pm \cos A \sin B$   
 $\sin(A \pm B) = \sin A \text{kos} B \pm \text{kos} A \sin B$
9.  $\cos(A \pm B) = \cos A \cos B \mp \sin A \sin B$   
 $\text{kos}(A \pm B) = \text{kos} A \text{kos} B \mp \sin A \sin B$
10.  $\tan(A \pm B) = \frac{\tan A \pm \tan B}{1 \mp \tan A \tan B}$
11.  $\tan 2A = \frac{2 \tan A}{1 - \tan^2 A}$
12.  $\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$
13.  $a^2 = b^2 + c^2 - 2bc \cos A$   
 $a^2 = b^2 + c^2 - 2bc \text{kos} A$
14. Area of triangle / *Luas segi tiga*  
 $= \frac{1}{2} ab \sin C$

Answer all questions.

Jawab semua soalan.

- 1 Diagram 1 shows the linear function  $g$ .  
Rajah 1 menunjukkan fungsi linear  $g$ .

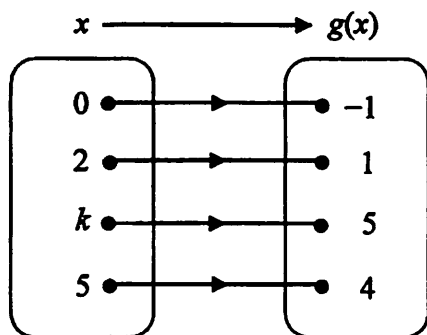


Diagram 1 / Rajah 1

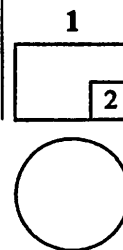
- (a) State the value of  $k$ .  
Nyatakan nilai  $k$ .
- (b) Using the function notation, express  $g$  in terms of  $x$ .  
Menggunakan tata tanda fungsi, ungkapkan  $g$  dalam sebutan  $x$ .

[2 marks]

[2 markah]

Answer / Jawapan :

For  
Examiner's  
Use



[Lihat sebelah  
SULIT

SULIT

6

3472/1

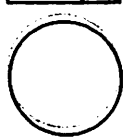
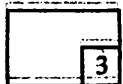
For  
Examiner's  
Use

- 2 Given the functions  $f: x \Rightarrow 4x + n$  and  $f^{-1}: x \Rightarrow 2mx + \frac{7}{4}$ , where  $m$  and  $n$  are constants, find the value of  $m$  and of  $n$ . [3 marks]

Diberi fungsi  $f: x \Rightarrow 4x + n$  dan  $f^{-1}: x \Rightarrow 2mx + \frac{7}{4}$ , dengan keadaan  $m$  dan  $n$  adalah pemalar, cari nilai  $m$  dan nilai  $n$ . [3 markah]

Answer / Jawapan :

2



**SULIT**

7

3472/1

- 3 It is given that  $-1$  is one of the roots of the quadratic equation  $3x(2x - 1) = 5 - 2p$ .  
Find the value of  $p$ . [2 marks]  
*Diberi bahawa  $-1$  ialah satu daripada punca persamaan kuadratik*  
 $3x(2x - 1) = 5 - 2p$ . Cari nilai  $p$  [2 markah]

Answer / Jawapan :

For  
Examiner's  
Use

3

- 4 The quadratic equation  $2x^2 - (6 + k)x + 2 = 0$ , where  $k$  is a constant, has two different roots. Find the range of values of  $k$ . [3 marks]

*Persamaan kuadratik  $2x^2 - (6 + k)x + 2 = 0$ , dengan keadaan  $k$  ialah pemalar, mempunyai dua punca yang berbeza. Cari julat nilai  $k$ . [3 markah]*

Answer / Jawapan :



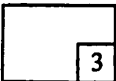
- 5 Find the range of values of  $x$  for  $3x^2 - 2 < 5x$ .  
 Cari julat nilai  $x$  bagi  $3x^2 - 2 < 5x$ .

[3 marks]

[3 markah]

For  
Examiner's  
Use

Answer / Jawapan :

5  


- 6 Diagram 6 shows the graph of quadratic function  $f(x) = -(x+p)^2 + k$ .  
 Rajah 6 menunjukkan graf fungsi kuadratik  $f(x) = -(x+p)^2 + k$ .

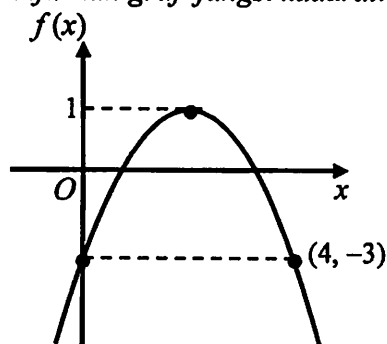


Diagram 6 / Rajah 6

State / Nyatakan

- (a) the values of  $k$  and  $p$ ,  
 nilai  $k$  dan nilai  $p$ ,  
 (b) the equation of the axis of symmetry.  
 persamaan paksi simetri.

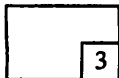
[3 marks]

[3 markah]

Answer / Jawapan :

(a)

(b)

6  




SULIT

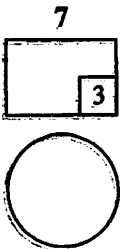
10

3472/1

For  
Examiner's  
Use

- 7 A point  $P(x, y)$  moves such that  $2PA = PB$ . Given that  $A(-3, 2)$  and  $B(0, 4)$ , find the equation of the locus of  $P$ . [3 marks]  
*Suatu titik  $P(x, y)$  bergerak dengan keadaan  $2PA = PB$ . Diberi  $A(-3, 2)$  dan  $B(0, 4)$ , cari persamaan lokus  $P$ . [3 markah]*

Answer / Jawapan :



3472/1

[Lihat sebelah  
SULIT

- 8 Diagram 8 shows a sector  $OPQ$  with radius 10 cm and  $\triangle ORQ$  is a right-angled triangle.  
*Rajah 8 menunjukkan sektor  $OPQ$  dengan jejari 10 cm dan  $\triangle ORQ$  adalah segitiga bersudut tegak.*

For  
Examiner's  
Use

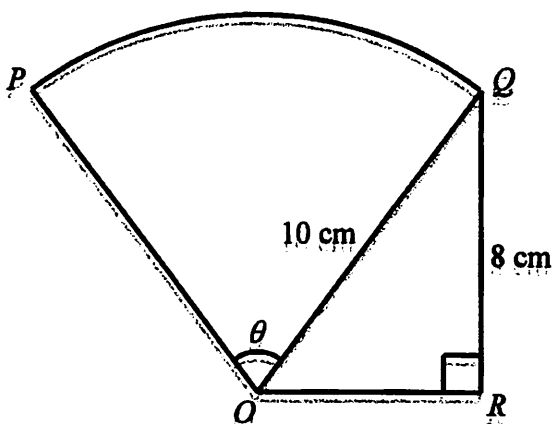


Diagram 8 / Rajah 8

Given that the area of sector  $OPQ$  is equal to the area of  $\triangle ORQ$ , find the value of  $\theta$  in radians.

*Diberi bahawa luas sektor  $OPQ$  adalah sama dengan luas segitiga  $ORQ$ , cari nilai  $\theta$  dalam radian.*

[Use / Guna  $\pi = 3.142$ ]

[3 marks]

[3 markah]

Answer / Jawapan :

8
3

For  
Examiner's  
Use

9 Given that the first three terms of an arithmetic progression are  $2k$ ,  $3k + 3$  and  $5k + 1$ .  
Diberi tiga sebutan pertama bagi suatu jangjang arithmetik ialah  $2k$ ,  $3k + 3$  dan  $5k + 1$   
Find / Cari

- (a) the value of  $k$ ,  
nilai  $k$ ,  
(b) the sum of the first 4 terms.  
hasil tambah 4 sebutan pertama.

[4 marks]

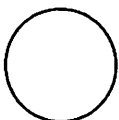
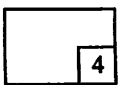
[4 markah]

Answer / Jawapan :

(a)

(b)

9



- 10 The sum to infinity of a geometric progression is 8. Given that the first term is 2.  
*Hasil tambah sehingga ketakterhinggaan bagi suatu janjang geometri ialah 8.  
Diberi sebutan pertama ialah 2.*

Find / Cari

- (a) the common ratio,  
*nisbah sepunya,*  
(b) the 2<sup>th</sup> term.  
*sebutan ke-2.*

[3 marks]

[3 markah]

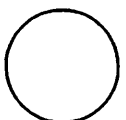
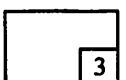
Answer / Jawapan :

(a)

(b)

For  
Examiner's  
Use

10

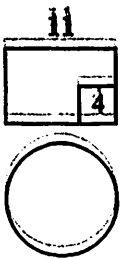


**SULIT**

14

3472/1

For  
Examiner's  
Use

**11** Solve the equation  $5^{2x} = 100 + 5^{2x-1}$ .**[4 marks]**Selesaikan persamaan  $5^{2x} = 100 + 5^{2x-1}$ .**[4 markah]****Answer / Jawapan :**

3472/1

**(Lihat sebelah  
SULIT**

**SULIT**

15

3472/1

12 If  $\log_5 x = a$  and  $\log_5 y = b$ , express  $\log_5 \left( \frac{625x}{\sqrt{y}} \right)$  in terms of  $a$  and  $b$ . [4 marks]

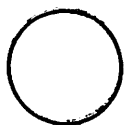
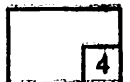
Jika  $\log_5 x = a$  dan  $\log_5 y = b$ , ungkapkan  $\log_5 \left( \frac{625x}{\sqrt{y}} \right)$  dalam sebutan  $a$  dan  $b$ .

[4 markah]

Answer / Jawapan :

For  
Examiner's  
Use

12



For  
Examiner's  
Use

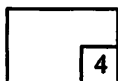
- 13 Solve the equation  $\log_3 2 + \log_9 (x + 3) = 1$ .  
*Selesaikan persamaan  $\log_3 2 + \log_9 (x + 3) = 1$ .*

[4 marks]

[4 markah]

Answer / Jawapan :

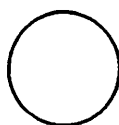
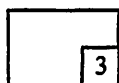
13



- 14 The mean of five numbers is 3. The sum of the squares of the numbers is  $p$  and the standard deviation is 2. Find the value of  $p$ . [3 marks]  
*Min bagi lima nombor ialah 3. Hasil tambah kuasa dua nombor-nombor itu ialah  $p$  dan sisihan piawai ialah 2. Cari nilai bagi  $p$ . [3 markah]*

Answer / Jawapan :

14





SULIT

17

3472/1

- 15 A point  $R$  lies on the curve  $y = (x - 5)^2$ . It is given that the gradient of the normal at  $R$  is parallel to the straight line  $4y = x + 8$ . Find the coordinates of  $R$ .

[3 marks]

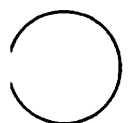
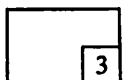
*Titik  $R$  terletak pada lengkung  $y = (x - 5)^2$ . Diberi kecerunan normal pada  $R$  adalah selari dengan garis lurus  $4y = x + 8$ . Cari koordinat  $R$ .*

[3 markah]

Answer / Jawapan :

*For  
Examiner's  
Use*

15



SULIT

18

3472/1

For  
Examiner's  
Use

16 Given that  $f(x) = \frac{4x}{2x-1}$ , evaluate  $f''(0)$ .

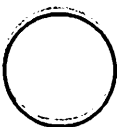
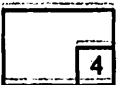
[4 marks]

Diberi  $f(x) = \frac{4x}{2x-1}$ , nilaikan  $f''(0)$ .

[4 markah]

Answer / Jawapan :

16



3472/1

[Lihat sebelah  
SULIT

SULIT

19

3472/1

17 Given that  $y = \frac{2x^2 - 1}{x^2}$ , such that  $\frac{dy}{dx} = 4f(x)$ , where  $f(x)$  is a function of  $x$ .

Evaluate  $\int_1^2 f(x) dx$ . [3 marks]

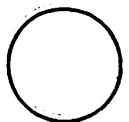
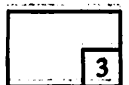
Diberi bahawa  $y = \frac{2x^2 - 1}{x^2}$ , supaya  $\frac{dy}{dx} = 4f(x)$ , dengan keadaan  $f(x)$  ialah fungsi

bagi  $x$ . Nilaikan  $\int_1^2 f(x) dx$ . [3 markah]

Answer / Jawapan :

For  
Examiner's  
Use

17



For  
Examiner's  
Use

18 Given that  $\int_1^2 f(x) dx = 4$  and  $\int_2^4 f(x) dx = 6$ , find the value of

Diberi bahawa  $\int_1^2 f(x) dx = 4$  dan  $\int_2^4 f(x) dx = 6$ , cari nilai bagi

(a)  $\int_1^2 f(x) dx + \int_2^4 f(x) dx$ ,

(b)  $k$  if  $\int_1^2 [kx - f(x)] dx = 14$ .

$k$  jika  $\int_1^2 [kx - f(x)] dx = 14$ .

[4 marks]

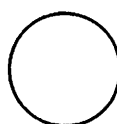
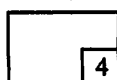
[4 markah]

Answer / Jawapan :

(a)

(b)

18



SULIT

21

3472/1

19 Solve the trigonometric equation  $\cot x - 2 \cos x = 0$  for  $0^\circ \leq x \leq 360^\circ$ .

[3 marks]

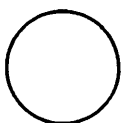
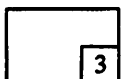
*Selesaikan persamaan trigonometri  $\cot x - 2 \cos x = 0$  untuk  $0^\circ \leq x \leq 360^\circ$ .*

[3 markah]

*Answer / Jawapan :*

*For  
Examiner's  
Use*

19



For  
Examiner's  
Use

20 Diagram 20 shows a straight line graph  $\frac{y}{x^2}$  against  $x$ .

Rajah 20 menunjukkan graf garis lurus  $\frac{y}{x^2}$  melawan  $x$ .

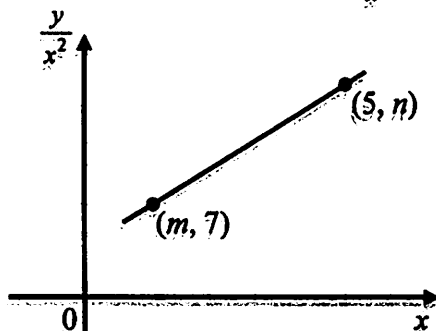


Diagram 20 / Rajah 20

Given that  $y=4x^2 + 3x^3$ , calculate the value of  $m$  and of  $n$ .

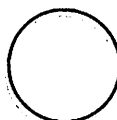
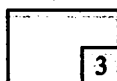
Diberi  $y=4x^2 + 3x^3$ , hitungkan nilai  $m$  dan nilai  $n$ .

[3 marks]

[3 markah]

Answer / Jawapan :

20



- 21 Diagram 21 shows two vectors,  $\vec{OQ}$  and  $\vec{OR}$ .  
*Rajah 21 menunjukkan dua vektor,  $\vec{OQ}$  dan  $\vec{OR}$ .*

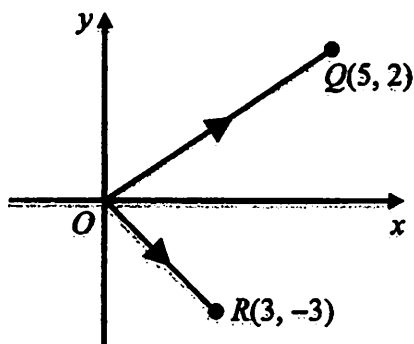


Diagram 21 / *Rajah 21*

- (a) Express  $\vec{RQ}$  in the form  $xi + yj$ ,  
*Ungkapkan  $\vec{RQ}$  dalam bentuk  $xi + yj$ .*
- (b) Find the unit vector in the direction of  $\vec{RQ}$ .  
*Cari vektor unit dalam arah  $\vec{RQ}$ .*

[3 marks]  
 [3 markah]

Answer / *Jawapan* :

(a)

(b)

*For  
 Examiner's  
 Use*

21

	3
--	---



SULIT

24

3472/1

For  
Examiner's  
Use

- 22 A box contains 10 cards with numbers 10, 11, 12, 13, 14, 15, 16, 17, 18 and 19 written on each card respectively. Two cards are drawn randomly from the box. Find the probability that the sum of the digits for both cards drawn is greater than 8.

[3 marks]

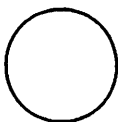
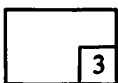
*Sebuah kotak mengandungi 10 keping kad bernombor 10, 11, 12, 13, 14, 15, 16, 17, 18 dan 19 yang ditulis masing-masing diatas kad tersebut. Dua keping kad dikeluarkan secara rawak daripada kotak itu.*

*Cari kebarangkalian bahawa jumlah digit bagi kedua-dua kad yang dikeluarkan adalah lebih besar daripada 8.*

[3 markah]

Answer / Jawapan :

22



3472/1

[Lihat sebelah  
SULIT



23 A student was asked to arrange three Mathematics books and four English books on a shelf. Find the different ways of arrangement if

*Seorang pelajar dikehendaki menyusun tiga buah buku Matematik dan empat buah buku Bahasa Inggeris di atas rak. Cari bilangan cara susunan yang berlainan jika*

(a) there is no restriction

*tiada syarat dikenakan*

(b) the Mathematics books are side by side.

*buku Matematik hendaklah berada sebelah menyebelah.*

[3 marks]

[3 markah]

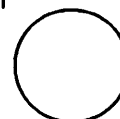
Answer / Jawapan :

(a)

(b)

For  
Examiner's  
Use

23



[Lihat sebelah  
SULIT

For  
Examiner's  
Use

24 A group of 6 students has to be chosen from 7 boys and 5 girls to form debating team. In how many ways can this be done if it consists of

*Sekumpulan 6 orang pelajar hendak dipilih daripada 7 lelaki dan 5 perempuan untuk membentuk pasukan debat. Berapa carakah ia boleh dilakukan jika ia mesti mengandungi*

- (a) exactly 4 boys,  
*tepat 4 pelajar lelaki,*  
(b) at least 4 girls.  
*sekurang-kurangnya 4 pelajar perempuan.*

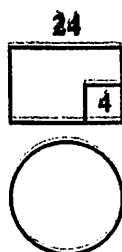
[4 marks]

[4 markah]

Answer / Jawapan :

(a)

(b)



- 25 Diagram 25 shows a standard normal distribution graph.  
 Rajah 25 menunjukkan graf taburan normal piawai.

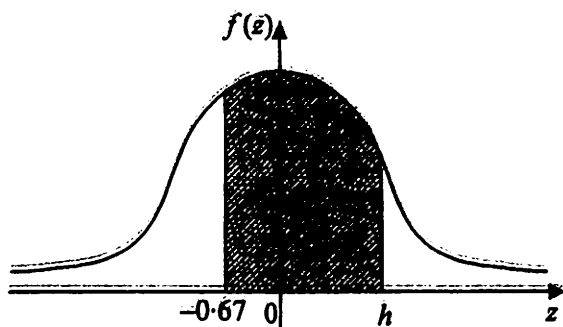


Diagram 25 / Rajah 25

The probability represented by the area of the shaded region is 0.6335.  
 Kebarangkalian yang diwakili oleh luas kawasan berlorek ialah 0.6335.

Find the value of  $h$ .  
 Cari nilai bagi  $h$ .

[3 marks]  
 [3 markah]

Answer / Jawapan:

END OF QUESTION PAPER  
 KERTAS SOALAN TAMAT

For  
 Examiner's  
 Use

25

	3
--	---



**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. Ia boleh membantu anda untuk mendapatkan markah.*
5. If you wish to change your answer, cross out the answer work 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 2 to 4.  
*Satu senarai rumus disediakan di halaman 2 hingga 4.*
9. Graph paper and a booklet of four-figure mathematical tables are provided.  
*Kertas graf dan 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.*