1 Bundarkan 54 071 betul kepada tiga angka bererti.

Round off 54 071 *correct to three significant figures.*

A 540

B 541

C 54 000

D 54 100

2 $573_9 + 246_9 =$

A 820_9

B 830_9

C 1020_9

D 1030_9

3 Diberi $1m6_8 = 1001_5$, cari nilai m.

Given $1m6_8 = 1001_5$, *find the value of* m.

A 2

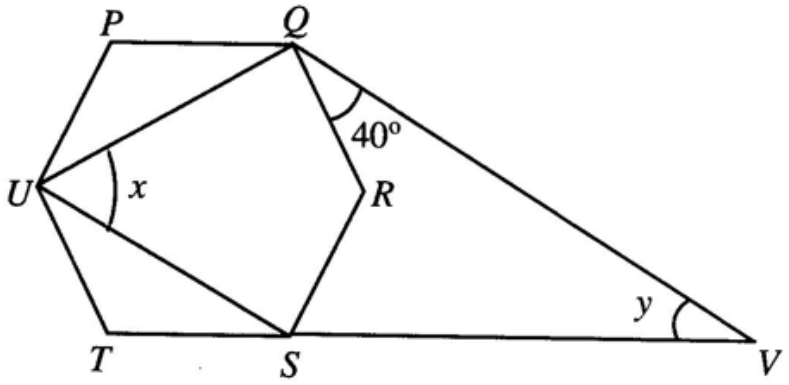
B 4

C 5

D 7

4 Dalam Rajah 4, *PQRSTU* ialah sebuah heksagon sekata. *TSV* ialah garis lurus

In Diagram 4, *PQRSTU is a regular hexagon. TSV is a straight line.*



Rajah 4
Diagram 4

Hitung nilai $x + y$.

Calculate the value of $x + y$.

A 60°

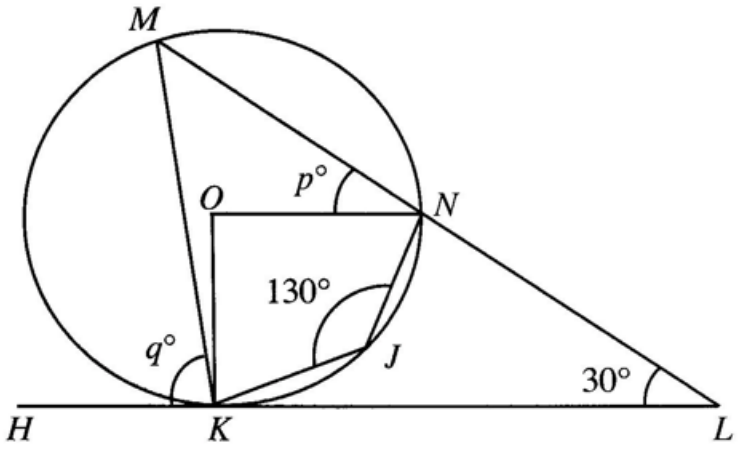
B 80°

C 90°

D 120°

5 Dalam Rajah 5, O adalah pusat sebuah bulatan. HKL adalah tangen kepada bulatan di K. MNL adalah garis lurus.

In Diagram 5, O is the centre of a circle. HKL is a tangent to the circle at K. MNL is a straight line.



Rajah 5
Diagram 5

Cari nilai-nilai p dan q.

Find the values of p and q.

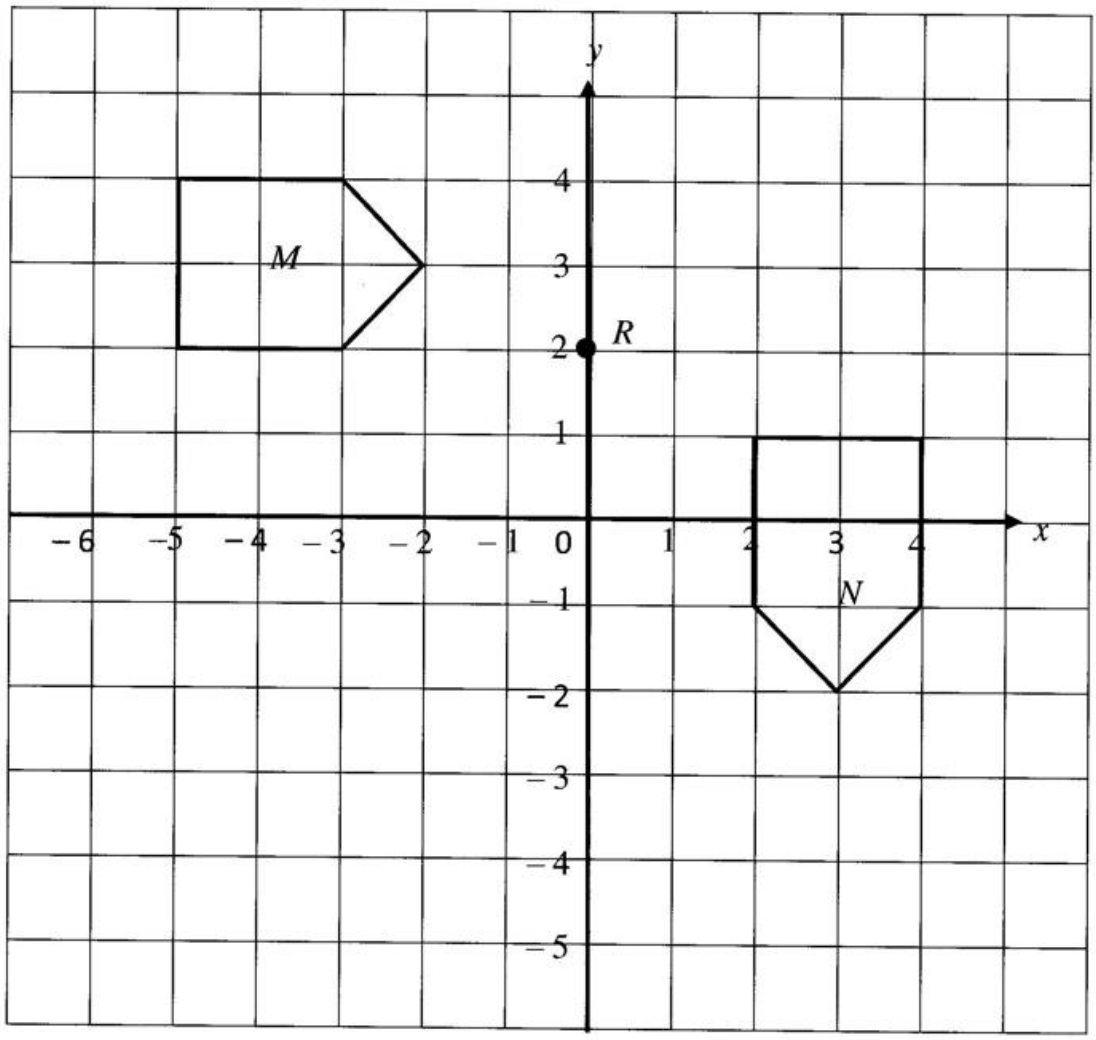
A $p = 30, q = 75$

B $p = 30, q = 80$

C $p = 40, q = 75$

D $p = 40, q = 80$

6 Rajah 6 menunjukkan dua pentagon M dan N dilukis pada satu satah Cartes. N ialah imej bagi M di bawah satu putaran.
Diagram 6 shows two pentagons M and N drawn on Cartesian plane. N is an image of M under a rotation.



Rajah 6
Diagram 6

Cari koordinat imej bagi titik R di bawah putaran yang sama.
Find the coordinate of the image of point R under the same rotation.

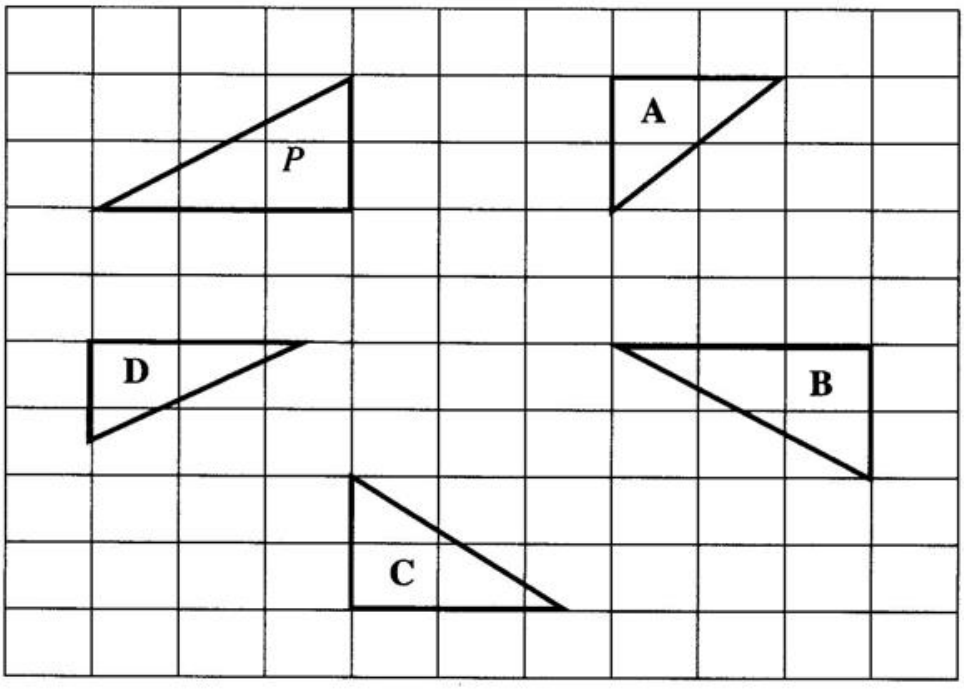
A $(-6, 0)$

B $(2, -4)$

C $(2, 6)$

D $(4, 0)$

7 Rajah 7 menunjukkan lima segi tiga yang dilukis di atas sebuah grid segi empat sama.
Diagram 7 shows fives triangles drawn on square grids.

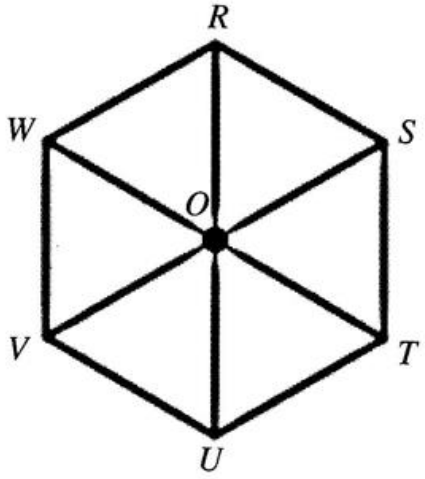


Rajah 7
Diagram 7

Antara segi tiga **A**, **B**, **C** dan **D**, yang manakah kongruen dengan segi tiga *P*?.
Which of triangles **A**, **B**, **C** *or* **D**, *is congruent to the triangle P?*.

8 Rajah 8 menunjukkan suatu bentuk teselasi yang terdiri daripada segi tiga sama sisi. Titik *O* ialah pusat bagi heksagon sekata *RSTUVW*.

Diagram 8 *shows a tessellation consisting of equilateral triangles. Point O is a centre for the regular hexagon RSTUVW.*



Rajah 8
Diagram 8

Antara pernyataan berikut, yang manakah **tidak benar**?
Which of the following statement is ***not true****?*

A Δ *SOT* ialah imej bagi ΔSOR di bawah pantulan pada garis *OS*.
Δ *SOT is the image of* ΔSOR *under the reflection on line OS.*

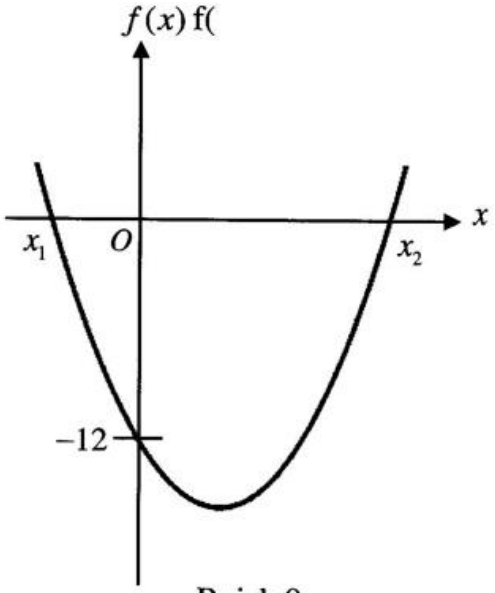
B ΔTOU ialah imej bagi ΔSOT dibawah putaran $60°$ lawan arah jam pada pusat *O*.
ΔTOU *is the image of* ΔSOT *under the rotation of* $60°$ *anticlockwise at centre O.*

C ΔUOT ialah imej bagi ΔSOR dibawah putaran $120°$ ikut arah jam pada pusat *O*.
ΔUOT *is the image of* ΔSOR *under the rotation of* $120°$ *clockwise at centre O.*

D ΔVOW ialah imej bagi ΔTOS di bawah pantulan pada garis *RU*.
ΔVOW *is the image of* ΔTOS *under the reflection on line RU.*

9 Rajah 9 menunjukkan graf bagi fungsi kuadratik $f(x) = x^2 - 4x + c$.

Diagram 9 shows the graph of the quadratic function $f(x) = x^2 - 4x + c$.



Rajah 9
Diagram 9

Hitung nilai x_1 dan nilai x_2.

Calculate the values of x_1 *and* x_2.

A $x_1 = -2, x_2 = 6$

B $x_1 = -3, x_2 = 4$

C $x_1 = -2, x_2 = 4$

D $x_1 = -1, x_2 = 12$

10 Permudahkan $(3p^{-2}q^3)^2 \div 3p^{-5}q$

Simplify $(3p^{-2}q^3)^2 \div 3p^{-5}q$

A pq^5

B p^3q^4

C $3p^{-9}q^7$

D $3pq^5$

11 Ah Bee, Krisnan dan Ummar menerima komisyen daripada penjualan produk pengilap kereta dalam nisbah $5:k-4:2$. Jika Ah Bee menerima RM127.50 lebih daripada Ummar dan komisyen yang diterima oleh ketiga-tiga orang penjual ialah RM722.50. Kira nilai bagi k.

Ah Bee, Krisnan and Ummar receive commissions from the sale of car polishing products in the ratio of $5:k-4:2$. *If Ah Bee receives* RM127.50 *more than Ummar and the commission received by the three sellers is* RM722.50. *Calculate the value of* k.

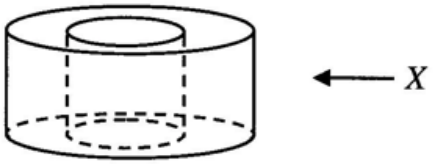
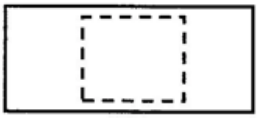
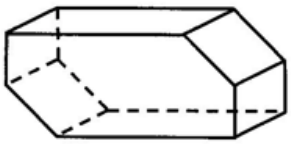
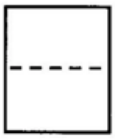
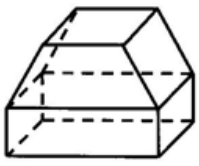
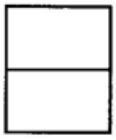
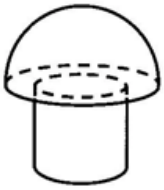
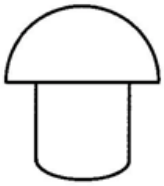
A 6

B 9

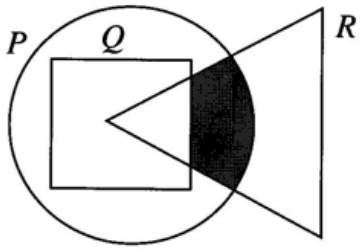
C 10

D 14

12 Antara berikut, yang manakah menunjukkan dongakan objek dari arah X yang betul?
Which of the following shows the correct elevation of the object as viewed from X?

	Objek *Object*	Dongakan *dari arah X* *Elevation viewed from X*
A		
B		
C		
D		

13 Rajah 13 ialah gambar rajah Venn yang menunjukkan hubungan antara set P, Q dan R.
Diagram 13 *is a Venn diagram shows the relationship between the sets* P, Q *and* R.



Rajah 13
Diagram 13

Antara berikut, yang manakah mewakili kawasan berlorek?
Which of the following represents the shaded region?

A $P \cap Q \cap R'$

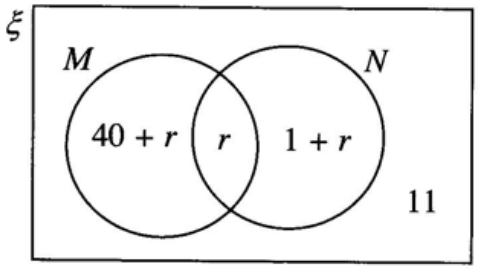
B $P \cap R \cap Q'$

C $(P \cap R)' \cap Q$

D $(Q \cap R)' \cap P$

14 Rajah 14 ialah gambar rajah Venn yang menunjukkan bilangan pelajar yang memiliki kereta dan motosikal di sebuah kolej. Diberi set semesta, $\xi = M \cup N$, set M = {pelajar yang memiliki kereta} dan set N = {pelajar yang memiliki motosikal}. Sebanyak 66 orang pelajar memiliki kereta dan 27 orang pelajar memiliki motosikal.

Diagram 14 is a *Venn diagram that shows the number of students who own cars and motorcycles in a college. Given the universal set,* $\xi = M \cup N$, *set* M = {*student who owns a car*} *and set* N = {*student who owns a motorcycle*}. *A total of* 66 *students own cars and* 27 *students own motorcycles.*



Rajah 14
Diagram 14

Hitung bilangan pelajar yang mempunyai kereta atau motosikal.
Calculate the number of students who owns a car or motorcycle.

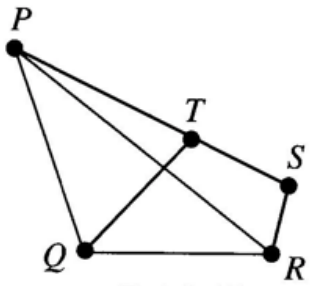
A 67

B 80

C 91

D 119

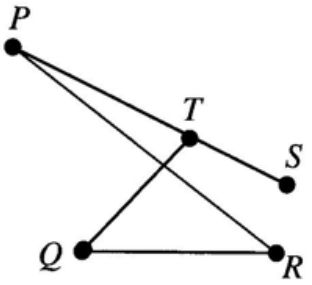
15 Rajah 15 menunjukkan satu graf mudah.
Diagram 15 *shows a simple graph.*



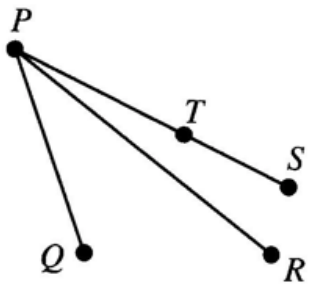
Rajah 15
Diagram 15

Antara berikut, yang manakah merupakan satu pokok berdasarkan graf yang diberikan?
Which of the following is a tree based on the given graph?

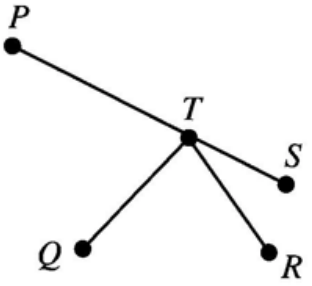
A



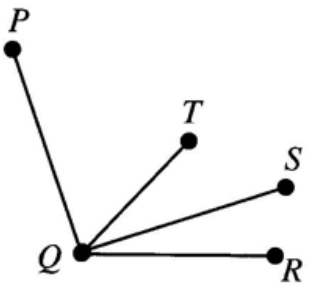
B



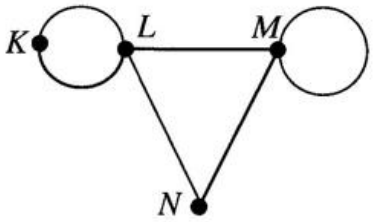
C



D



16 Rajah 16 menunjukkan suatu graf yang mempunyai gelung dan bebilang tepi.
Diagram 16 *shows a graph that has loops and multiple edges.*



Rajah 16
Diagram 16

Hitungkan $\sum d(v)$.
Calculate the $\sum d(v)$.

A 10

B 11

C 12

D 14

17 Sakinah membeli x buah cenderamata di sebuah kedai dengan harga RM29 sebuah untuk rakan-rakannya semasa lawatannya ke Sandakan, Sabah. Dia membayar menggunakan tiga keping wang kertas RM100 dan menerima baki daripada juruwang. Antara ketaksamaan berikut, yang manakah sesuai mewakili bilangan cenderamata yang dapat dibelinya?
Sakinah bought x souvenirs at a shop for RM29 *each for her friends during her visit to Sandakan, Sabah. She paid using three pieces of* RM100 *notes and received the balance from the cashier. Which of the following inequalities, suitable to represent the number of souvenirs she can buy*?

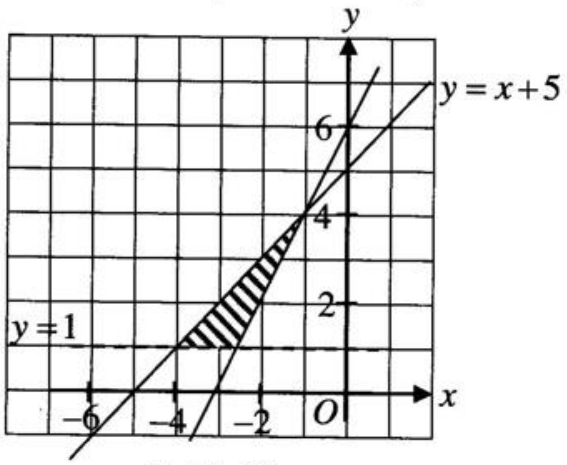
A $x \leq \frac{100}{29}$

B $x < \frac{100}{29}$

C $x < \frac{300}{29}$

D $x \leq \frac{300}{29}$

18 Rajah 18 menunjukkan rantau berlorek yang memuaskan tiga ketaksamaan.
Diagram 18 *shows a shaded region that satisfies three inequalities.*



Rajah 18
Diagram 18

Nyatakan ketaksamaan linear, selain $\mathbf{y \leq x + 5}$ dan $\mathbf{y > 1}$, yang manakah memuaskan kawasan berlorek?
State the linear inequalities, other than $\mathbf{y \leq x + 5}$ *and* $y > 1$, *which satisfies the shaded region*?

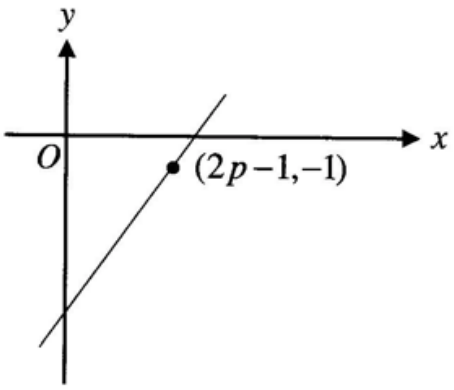
A $y > -2x+6$

B $y < 2x+6$

C $y \geq 2x+6$

D $y \leq -2x+6$

19 Rajah 19 menunjukkan satu garis lurus $3x-2y=18$. Diberi bahawa O adalah asalan.
Diagram 19 shows a straight line $3x-2y=18$. *Given that O is the origin.*



Rajah 19
Diagram 19

Tentukan nilai bagi p
Determine the value of p

A $-\frac{23}{4}$

B $-\frac{19}{4}$

C $\frac{19}{6}$

D $\frac{23}{6}$

20 Diberi bahawa $\frac{2m-3}{5}=1-\frac{m}{3}$, maka $m=$
Given that $\frac{2m-3}{5}=1-\frac{m}{3}$, *then* $m=$

A $\frac{14}{11}$

B $\frac{24}{11}$

C $\frac{18}{7}$

D $\frac{24}{7}$

21 Ungkapkan $\frac{5b}{a^2-b^2} \div \frac{ab}{a-b}$ sebagai satu pecahan tunggal dalam bentuk termudah.

Express $\frac{5b}{a^2-b^2} \div \frac{ab}{a-b}$ *as a single fraction in its simplest form.*

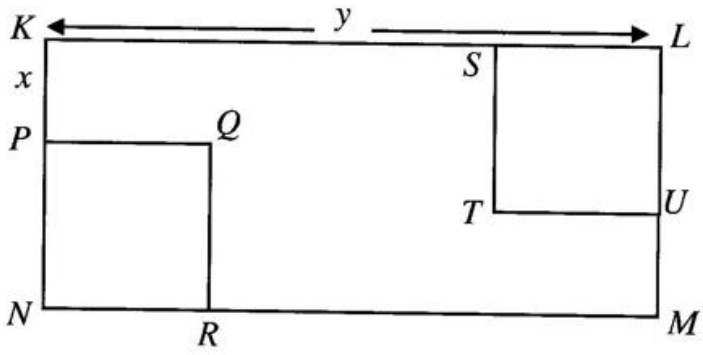
A $\frac{5b}{a+b}$

B $\frac{5}{a^2+ab}$

C $\frac{5}{a^2-ab}$

D $\frac{5}{a^2-b}$

22 Rajah 22 menunjukkan sebuah segi empat tepat *KLMN* dan segi empat sama yang kongruen *PQRN* dan *SLUT*.
Diagram 22 shows a rectangle KLMN and two congruent squares PQRN and SLUT.



Rajah 22
Diagram 22

Diberi $QR = 3$ cm. Jika W cm^2 ialah luas bagi kawasan yang berlorek, maka
Given $QR = 3$ cm. *If* W cm^2 *is the area of the shaded region, then*

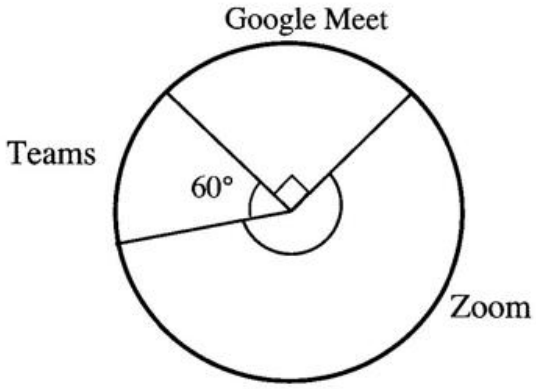
A $W = xy - 18$

B $W = xy - y - 9$

C $W = xy + 3y - 18$

D $W = xy + 3y - 9$

23 Rajah 23 menunjukkan carta pai penggunaan medium dalam talian bagi sebuah syarikat.
Diagram 23 *shows a pie chart of online medium usage for a company.*



Rajah 23
Diagram 23

Jika bilangan pekerja yang menggunakan Teams ialah 300 orang, hitung bilangan pekerja yang menggunakan Zoom.
If the number of employees using the Teams is 300 *people, calculate the number of employees using the Zoom.*

A 700

B 750

C 1050

D 1500

24 Jadual 24 menunjukkan jarak di antara rumah dan sekolah bagi 31 orang pelajar.
Table 24 shows the distance between home and school for 31 students.

Jarak(km) *Distance* (km)	Bilangan pelajar *Number of students*
1.0 – 1.9	2
2.0 – 2.9	5
3.0 – 3.9	9
4.0 – 4.9	10
5.0 – 5.9	5

Jadual 24
Table 24

Hitung min jarak di antara rumah dan sekolah.
Calculate the mean of the distance between house and school.

A 3.80 km

B 3.85 km

C 3.93 km

D 4.30 km

25 Diberi suatu set data:
Given a set of data:

$$2, p, 1, 5, 4, 9$$

Diberi min bagi data tersebut ialah 4.
Hitung varians set data itu.

Given the mean of the data is 4.
Calculate the variance of data set.

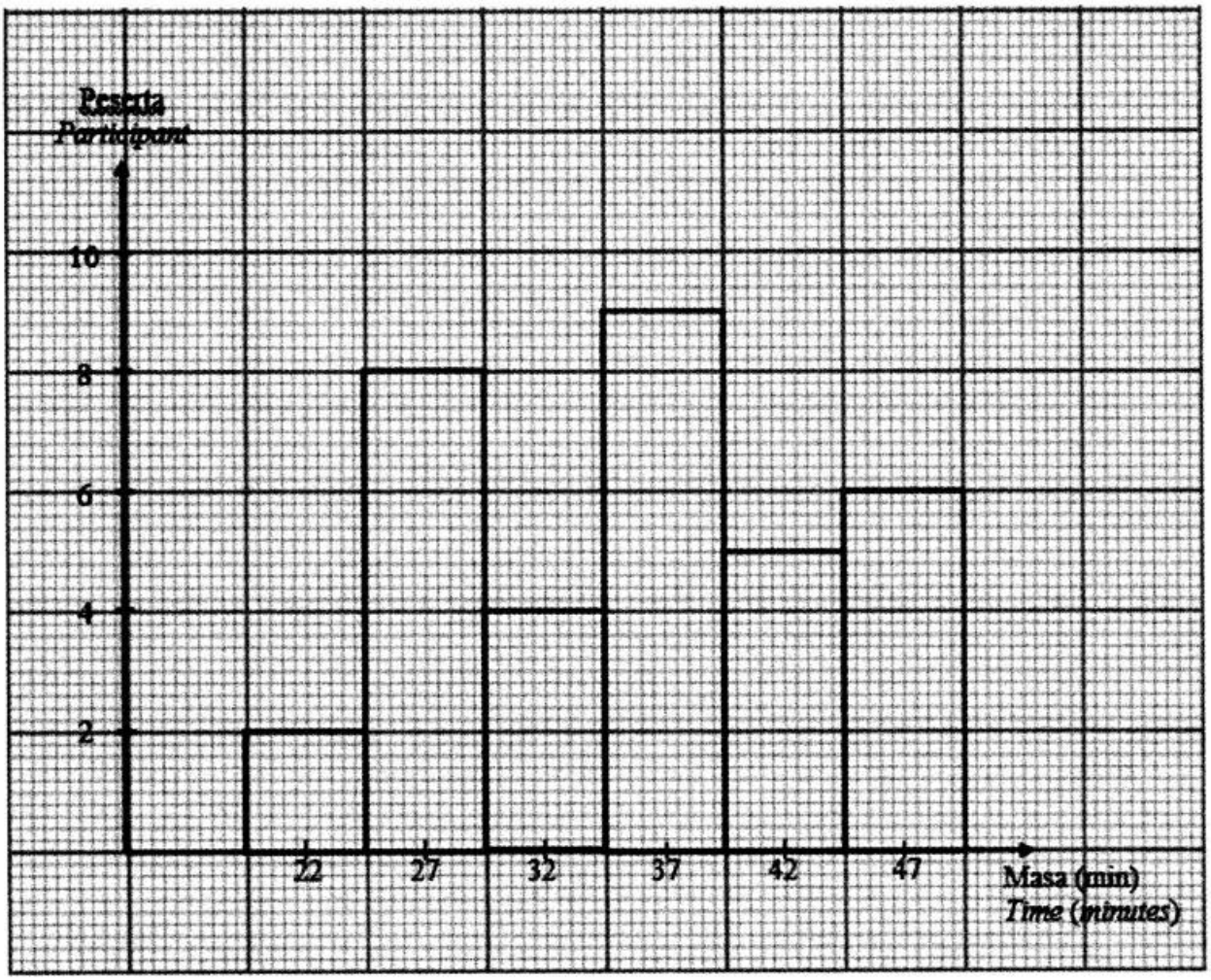
A 5.17

B 6.67

C 9.40

D 11.2

26 Rajah 26 menunjukkan histogram bagi masa yang diambil oleh sekumpulan peserta dalam acara berjalan kaki.
Rajah 26 shows histogram representing the time taken by a group of participants in walking event.



Rajah 26
Diagram 26

Berdasarkan histogram di Rajah 26, manakah pernyataan yang benar?
Based on histogram in Diagram 26, which statement is correct?

A Bentuk taburan bagi histogram ialah bentuk-U.
Distribution shape of histogram is U-shaped.

B Saiz selang kelas bagi histogram adalah 6.
Size of class interval of histogram is 6.

C Sebanyak 11peserta merekodkan masa lebih daripada 35 minit.
A total of 11 participants recorded time more than 35 minutes.

D Bilangan peserta yang terlibat dalam program ini ialah 34.
The number of participants who involved this event is 34.

27 Ramli seorang sukarelawan, memandu kereta dari rumahnya ke pusat vaksinasi di Bangi. Dia bertolak dari rumahnya pada jam 6.30 pagi dengan kelajuan 85 kmj^{-1}. Ramli sampai di pusat vaksinasi jam 7.15 pagi. Beliau akan bertugas selama 5 jam. Selesai bertugas, beliau bertolak pulang melalui jalan yang sama.
Hitung laju, dalam kmj^{-1}, Ramli memandu jika beliau sampai ke rumah jam 1.10 tengah hari?

Ramli is a volunteer, driving a car from his house to the vaccination center in Bangi. He left his house at 6.30 am *with a speed of* 85 kmj^{-1}. *Ramli arrived at the vaccination center at* 7.15 am. *He will be on duty for 5 hours. After finished his duty, he left for home using the same route.*
Calculate the speed, in kmj^{-1}, *Ramli drive if he reaches home* at 1.10 pm?

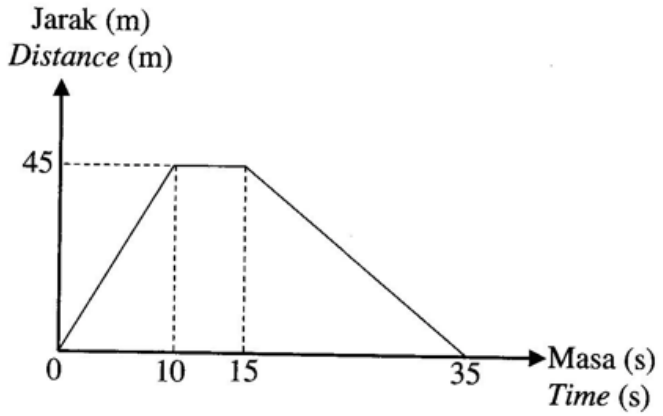
A 60.27

B 69.55

C 76.05

D 78.82

28 Rajah 28 menunjukkan graf jarak-masa bagi pergerakan suatu zarah dalam tempoh 35 saat.
Diagram 28 *shows the distance-time graph of a particle movement for* a period of 35 seconds.



Rajah 28
Diagram 28

Hitung laju, dalam ms^{-1}, *zarah itu pada* 18 *saat.*
Calculate the speed, in ms^{-1}, *of the particle at* 18 *seconds.*

A 2.57

B 2.25

C 0.44

D 0.40

29 Dalam satu kajian yang dijalankan, kebarangkalian pekerja di Kilang B hilang pekerjaan adalah 0.37. Kilang tersebut mempunyai 2 500 orang pekerja.
Hitung bilangan pekerja yang masih kekal bekerja.

In a survey, the probability of an employee in Factory B losing a job was 0.37. *The factory has* 2 500 *employees.*
Calculate the number of employees who are still working.

A 925

B 1 500

C 1 575

D 1 825

30 Jadual 30 menunjukkan bilangan murid lelaki dan murid perempuan di kelas 5 Kenanga dan 5 Mawar.

Table 30 *shows the number of male and female Mathematics pupils in class* 5 *Kenanga and* 5 *Mawar.*

	5 Kenanga	**5 Mawar**
Lelaki ***Male***	13	15
Perempuan ***Female***	13	14

Jadual 30
Table 30

Seorang murid dipilih secara rawak daripada kumpulan lelaki dan seorang lagi murid daripada kumpulan perempuan, hitung kebarangkalian bahawa murid-murid yang dipilih adalah dari kelas yang sama?

A pupil is randomly selected from a male pupil and a pupil is randomly selected from a female pupil, what is the probability that the selected pupils are from the same class?

A $\frac{379}{2970}$

B $\frac{1681}{3264}$

C $\frac{379}{756}$

D $\frac{376}{725}$

31 Malik ingin memiliki sebuah kereta yang bernilai RM125 000 secara kredit. Beliau akan membayar bayaran pendahuluan sebanyak 10% dan bakinya akan dibayar secara ansuran selama 7 tahun. Kadar faedah sama rata yang dikenakan oleh bank ialah 4% setahun.
Hitung jumlah bayaran balik yang perlu dibayar oleh Malik.

Malik wants to own a car worth RM125 000 *on credit. He will pay an advance payment of* 10% *and the balance will be paid in installments over* 7 *years. The flat interest rate imposed by the bank is* 4% *per annum.*
Calculate the amount of repayment that Malik has to pay.

A RM144 000

B RM147 500

C RM156 500

D RM160 000

32 Encik Siva mempunyai perlindungan insurans perubatan dengan had tahunan sebanyak RM500 000. Dia telah menjalani pembedahan jantung dan dikenakan kos rawatan sebanyak RM200 000.

Hitung bayaran yang perlu ditanggung oleh syarikat insurans jika polisi insurans perubatan Encik Siva mempunyai deduktibel sebanyak RM500 dan peratusan ko-insurans 80/20.

Encik Siva has medical insurance coverage with an annual limit of RM500 000. *He underwent heart surgery and the treatment cost was* RM200 000.
Calculate the payment to be borne by insurance company if Encik Siva's medical insurance policy has a deductible of RM500 *and a co-insurance percentage of* 80/20.

A RM199 500

B RM160 000

C RM159 600

D RM159 500

33 Encik Amirul memiliki sebuah rumah teres di Kajang. Sewa rumah itu dianggarkan pada RM1 100 sebulan dan kadar cukai taksiran yang dikenakan ialah 5%.
Hitung cukai taksiran yang perlu dibayar oleh Encik Amirul untuk setiap setengah tahun.

Encik Amirul owns a terrace house in Kajang. It is estimated that the house rental is at RM1 100 *per month and the property assessment tax rate is* 5%.
Calculate the property assessment tax payable by Encik Amirul for each half-year.

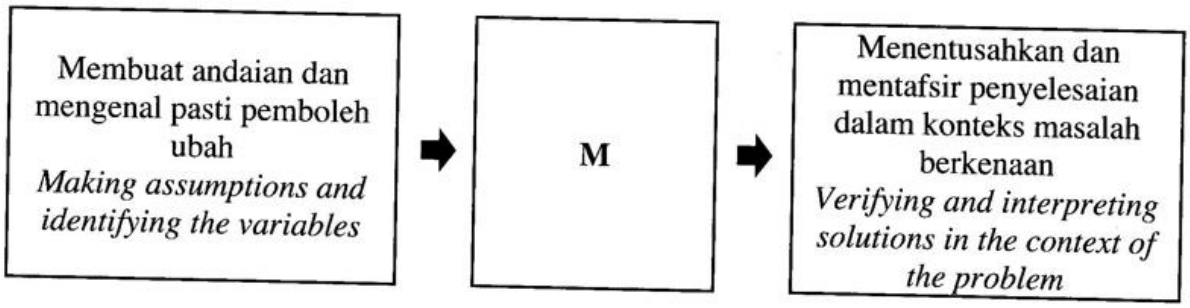
A RM27.50

B RM55.00

C RM330.00

D RM660.00

34 Rajah 34 menunjukkan sebahagian proses permodelan matematik yang tidak lengkap.
Diagram 34 shows part of the incomplete mathematical modeling process.



Rajah 34
Diagram 34

Antara yang berikut, yang manakah menunjukkan proses **M**?
Which of the following shows the process **M**?

A Mengenal pasti dan mendefinisikan masalah
Identifying and defining the problems

B Mengaplikasi matematik untuk menyelesaikan masalah
Applying mathematics to solve problems

C Membentuk persamaan matematik dalam konteks dunia sebenar
Forming mathematical equation in real-world contexts

D Memurnikan model matematik
Refining the mathematical model

35 Diberi bahawa p berubah secara langsung dengan punca kuasa dua q dan r. Jika $q = 4$ dan $r = 4$, maka $p = 24$.
Hitung nilai q apabila $p = 60$ dan $r = 5$.

Given that p varies directly as the square root of q and r. If $q = 4$ *and* $r = 4$, *then* $p = 24$.
Calculate the value of q when $p = 60$ *and* $r = 5$.

A 10

B 12

C 16

D 20

36 Syarikat Toy N Us mendapati bahawa jumlah mainan yang dijual, P, berubah secara langsung dengan kos iklan mereka, M, dan berubah secara songsang dengan harga setiap mainan, N. Jika RM54 000 dibelanjakan untuk iklan dan harga mainan berharga RM90, maka 9 600 unit mainan telah dijual.
Hitung jumlah mainan yang dijual sekiranya jumlah kos iklan dan harga mainan dinaikkan menjadi RM144 000 dan RM100 masing-masing.

Toy N Us company found that the number of toys sold, P, varies directly as their advertising cost, M, and inversely as the price of each toy, N. If RM54 000 *was spent on advertising and the price of the toy was* RM90, *then* 9 600 *units toys have been sold.*
Calculate the number of toys sold if the total cost of advertising and the price of toys are increased to RM144 000 *and* RM100 *respectively.*

A 23 040

B 24 000

C 25 600

D 28 444

37 $\begin{pmatrix} -3 \\ 2 \\ 4 \end{pmatrix} \begin{pmatrix} -5 & 4 \end{pmatrix} =$

A $\begin{pmatrix} 3 \\ -2 \\ -4 \end{pmatrix}$

B $\begin{pmatrix} 15 & -12 \\ 10 & -8 \\ 20 & -16 \end{pmatrix}$

C $\begin{pmatrix} 15 & -12 \\ -10 & 8 \\ -20 & 16 \end{pmatrix}$

D $\begin{pmatrix} 15 & -10 & -20 \\ -12 & 8 & 16 \end{pmatrix}$

38 Diberi bahawa $2(h \quad -3)-(4 \quad k)=\frac{1}{2}(-4h \quad -4)$, cari nilai $h+k$.

Given that $2(h \quad -3)-(4 \quad k)=\frac{1}{2}(-4h \quad -4)$, *find the value of* $h+k$.

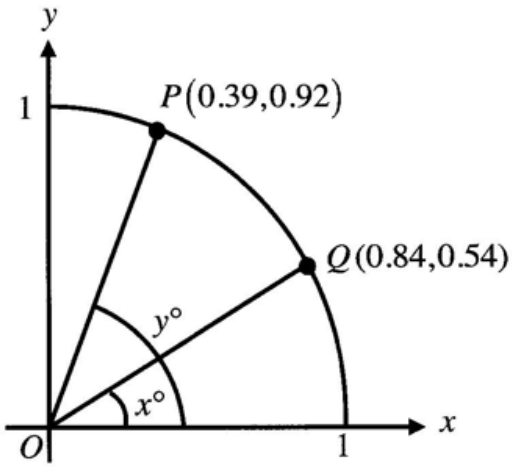
A -1

B -3

C 2

D 1

39 Dalam Rajah 39, titik P dan titik Q terletak pada lengkuk suatu bulatan unit berpusat di O.
In Diagram 39, *point P and point Q lie on the arc of a unit of circle with the centre O.*



Rajah 39
Diagram 39

Cari nilai 3 sin $x°-$ 2 kos $y°$.
Find the value of 3 sin $x°-$ 2 kos $y°$.

A 0.68

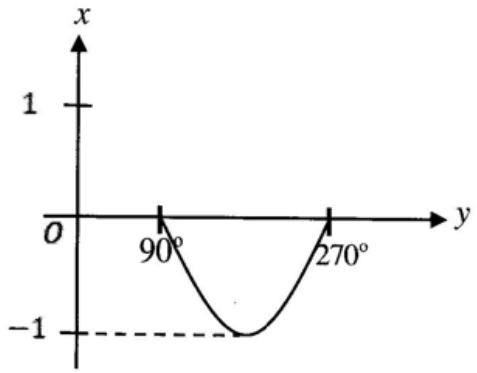
B 0.84

C 1.08

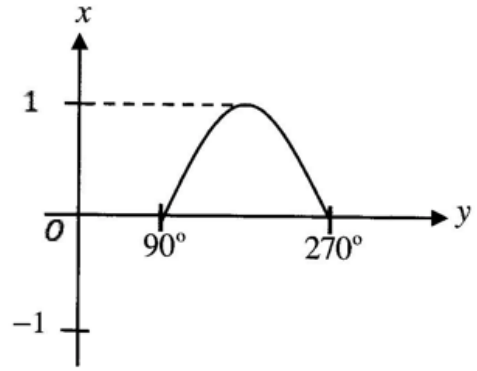
D 1.09

40 Graf manakah yang mewakili graf $y = \sin x°$ bagi $90° \leq x \leq 270°$?
Which graph represents the graph of $y = \sin x°$ *for* $90° \leq x \leq 270°$?

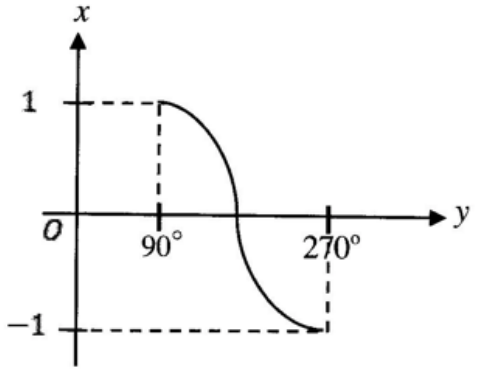
A



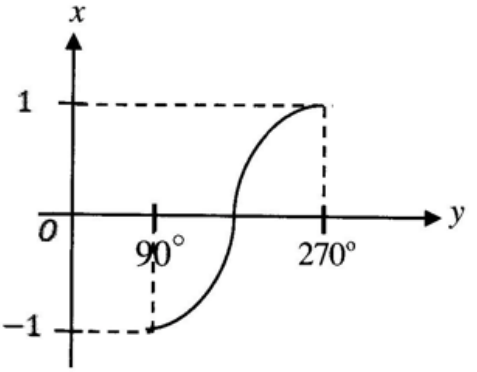
B



C



D



END OF QUESTION PAPER
KERTAS SOALAN TAMAT