1 Round off 62·19 correct to three significant figures.
Bundarkan 62·19 *betul kepada tiga angka bererti.*

A 62·0

B 62·1

C 62·2

D 63·0

2 Express 2039·2 in standard form.
Ungkapkan 2039·2 *dalam bentuk piawai.*

A $2{\cdot}0392 \times 10^{-3}$

B $2{\cdot}0392 \times 10^{-2}$

C $2{\cdot}0392 \times 10^{2}$

D $2{\cdot}0392 \times 10^{3}$

3 $\dfrac{0{\cdot}002163 \times 3{\cdot}428}{\sqrt{6{\cdot}2 \times 10^{-3}}} =$

A $2{\cdot}978 \times 10^{2}$

B $2{\cdot}978 \times 10^{-4}$

C $1{\cdot}196 \times 10^{-4}$

D $9{\cdot}417 \times 10^{-2}$

  [Lihat halaman sebelah

4 Diagram 1 shows an empty semi cylinder water tank.

Rajah 1 menunjukkan sebuah tangki air berbentuk separuh silinder yang kosong.

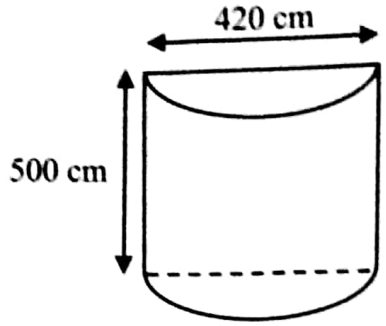


Diagram 1
Rajah 1

Khairul filled the water tank until full.

Calculate the volume, in m^3, of the tank.

[Given $\pi = \frac{22}{7}$]

Khairul mengisi air ke dalam tangki itu sehingga penuh.

Hitung isi padu, dalam m^3, *tangki itu.*

[*Diberi* $\pi = \frac{22}{7}$]

A $3{\cdot}47 \times 10^{-2}$

B $3{\cdot}47 \times 10^{7}$

C $2{\cdot}31 \times 10^{-2}$

D $2{\cdot}31 \times 10^{7}$

5 Given T_5 is a number between 24_8 and 27_8, find the value of T.

Diberi T_5 *adalah satu nombor di antara* 24_8 *dan* 27_8, *cari nilai* T.

A 32

B 34

C 42

D 44

6 $1100_2 + 122_5 + 13_8 =$

A 60

B 110_2

C 156_5

D 172_8

7 In Diagram 2, *ABCDEF* is a regular hexagon. *HDEG* is part of a regular polygon. *CEG* is a straight line.

Dalam Rajah 2, ABCDEF ialah sebuah heksagon sekata. HDEG ialah sebahagian poligon sekata. CEG ialah garis lurus.

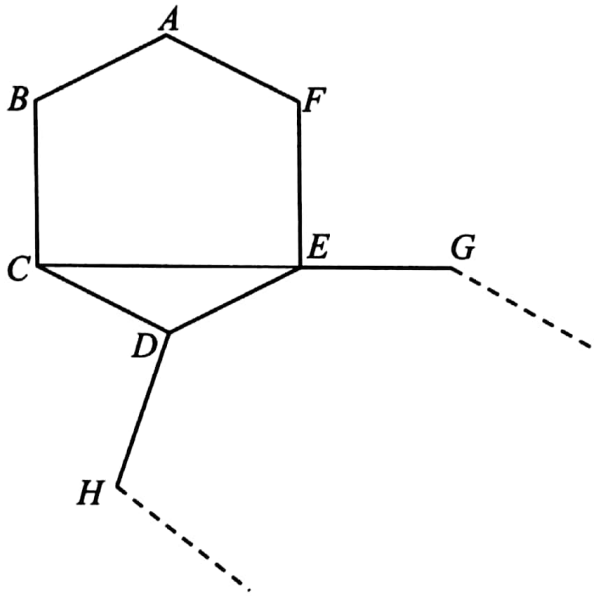


Diagram 2
Rajah 2

Find the number of sides of the regular polygon that *HDEG* is part of.

Cari bilangan sisi poligon sekata bahagian HDEG tersebut.

A 6

B 8

C 10

D 12

  [Lihat halaman sebelah

8 In Diagram 3, *PQRSTUVW* is a regular octagon and *WXYZP* is a regular pentagon.

Dalam Rajah 3, PQRSTUVW ialah sebuah oktagon sekata dan WXYZP ialah pentagon sekata.

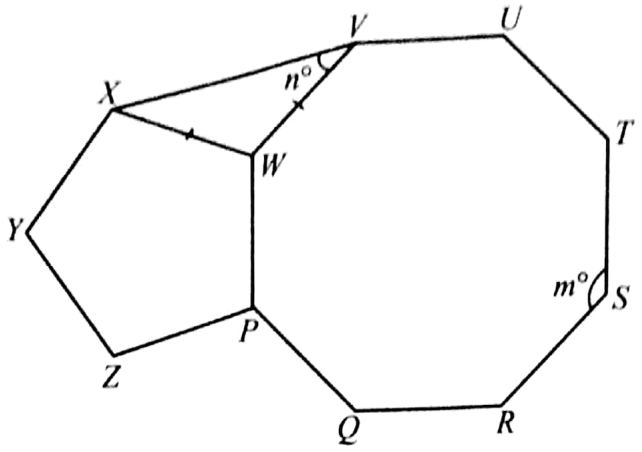


Diagram 3
Rajah 3

Find the value of $m + n$.

Cari nilai $m + n$.

A 315

B 108

C 166·5

D 135

9 In Diagram 4, ABC is a tangent to the circle BDE.
Dalam Rajah 4, ABC ialah tangen kepada bulatan BDE.

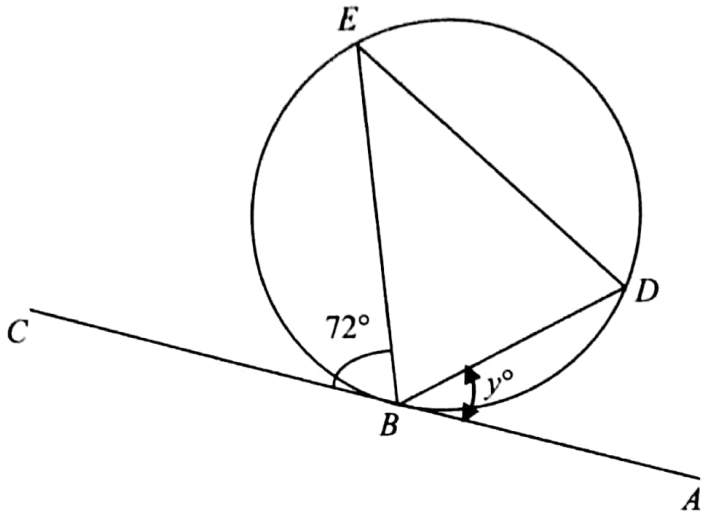


Diagram 4
Rajah 4

Given $BE = DE$, find the value of y.
Diberi BE = DE, cari nilai y.

A 26

B 28

C 36

D 38

  [Lihat halaman sebelah

10 In Diagram 5, Q' is the image of vertex Q under a translation M.
Dalam Rajah 5, Q' ialah imej bagi bucu Q di bawah satu translasi M.

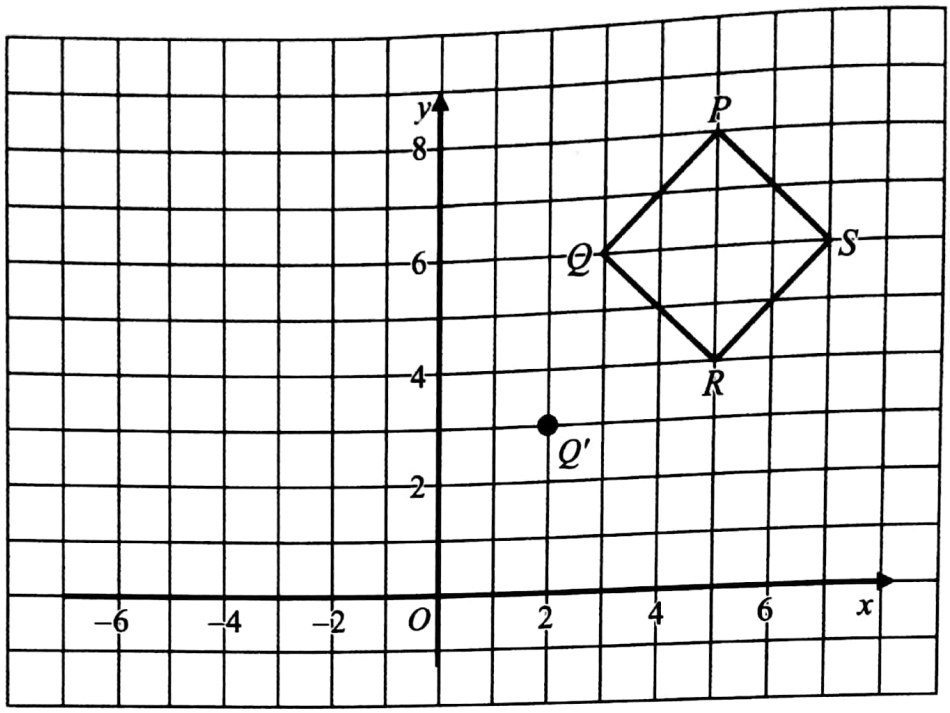


Diagram 5
Rajah 5

Translation M is
Translasi M ialah

A $\begin{pmatrix} -3 \\ -1 \end{pmatrix}$

B $\begin{pmatrix} -1 \\ -3 \end{pmatrix}$

C $\begin{pmatrix} -5 \\ 3 \end{pmatrix}$

D $\begin{pmatrix} -3 \\ -5 \end{pmatrix}$

11 In Diagram 6, pentagon F is the image of pentagon E under an anticlockwise rotation of 90°.
Dalam Rajah 6, pentagon F ialah imej bagi pentagon E di bawah suatu putaran 90° lawan arah jam.

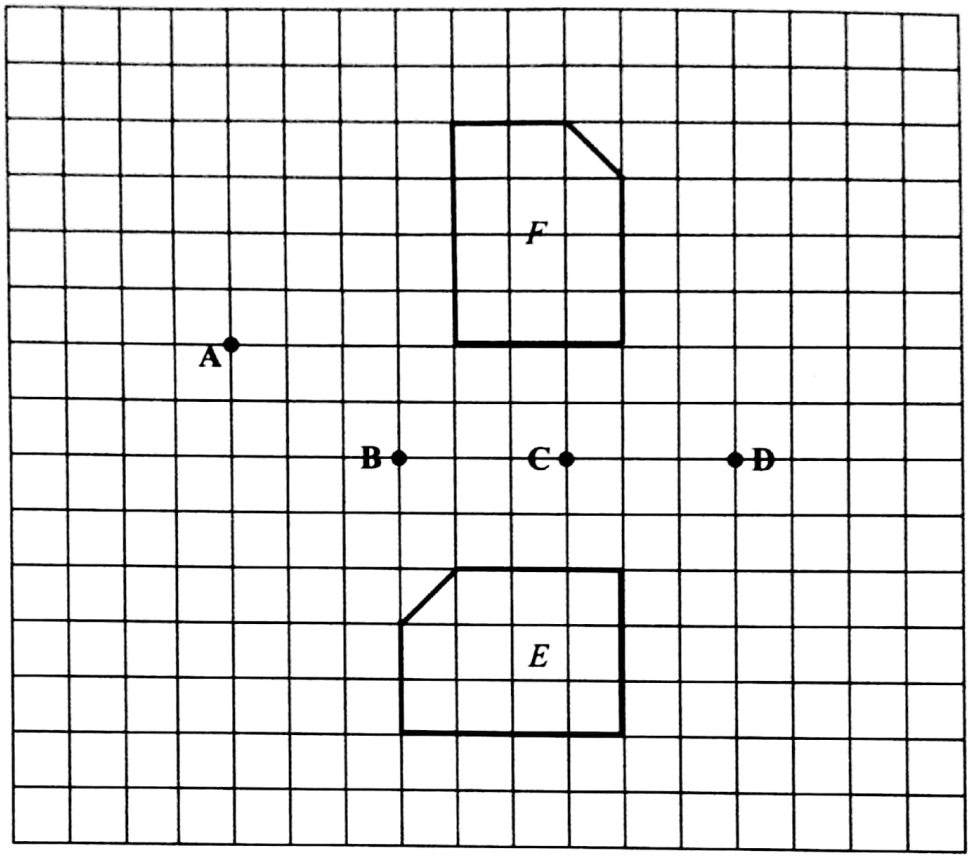


Diagram 6
Rajah 6

Which of the points **A**, **B**, **C** or **D**, is the centre of the rotation?
Antara titik **A**, **B**, **C** *dan* **D**, *yang manakah pusat putaran itu?*

12 Diagram 7 shows the graph $y = \sin x$.

Rajah 7 menunjukkan graf $y = \sin x$.

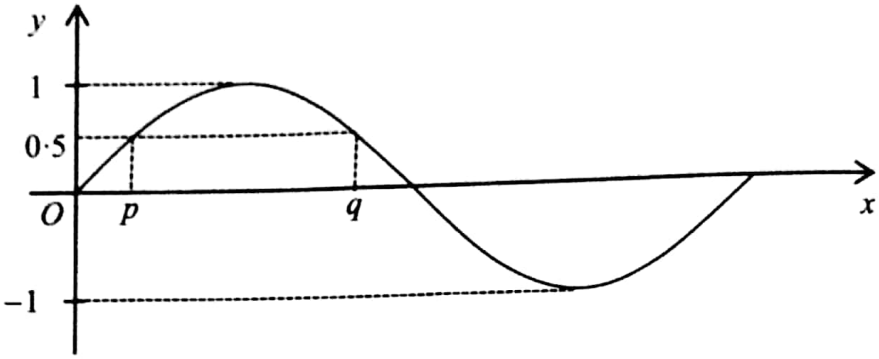


Diagram 7
Rajah 7

What are the values of p and q?

Apakah nilai p dan q?

A $p = 30°, q = 150°$

B $p = 30°, q = 180°$

C $p = 210°, q = 330°$

D $p = 210°, q = 300°$

13 In Diagram 8, *JKL* is a straight line.

Dalam Rajah 8, *JKL ialah garis lurus*.

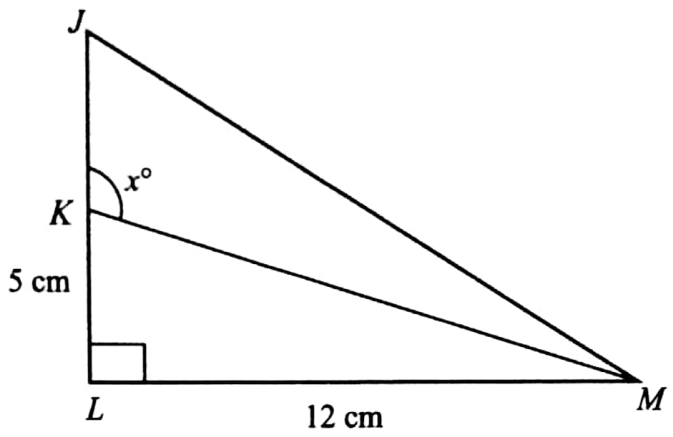


Diagram 8
Rajah 8

Find the value of cos $x°$ + sin $x°$.

Cari nilai kos $x°$ + sin $x°$.

A $-\frac{2}{13}$

B $-\frac{7}{13}$

C $\frac{2}{13}$

D $\frac{7}{13}$

[Lihat halaman sebelah

14 Diagram 9 shows a right prism with $PQRS$ as the horizontal base. The isosceles triangle PQW is the uniform cross section of the prism. M is the midpoint of PQ.

Rajah 9 menunjukkan sebuah prisma tegak dengan PQRS sebagai tapak mengufuk. Segi tiga sama kaki PQW adalah keratan rentas seragam prisma tersebut. M adalah titik tengah PQ.

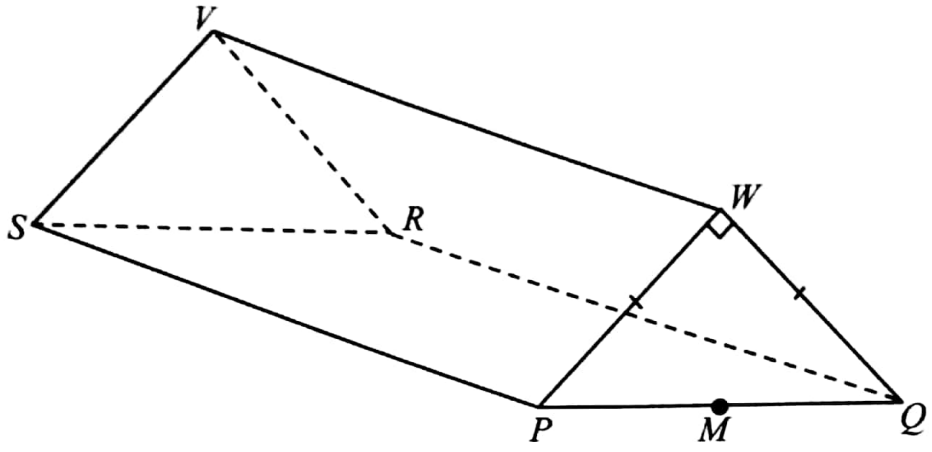


Diagram 9
Rajah 9

Name the angle between the line SW and the base $PQRS$.

Namakan sudut antara garis SW dengan tapak PQRS.

A $\angle SWQ$

B $\angle WSM$

C $\angle VMW$

D $\angle RQP$

15 Diagram 10 shows two apartments situated oppositely.

Rajah 10 *menunjukkan dua buah pangsapuri berkedudukan secara bertentangan.*

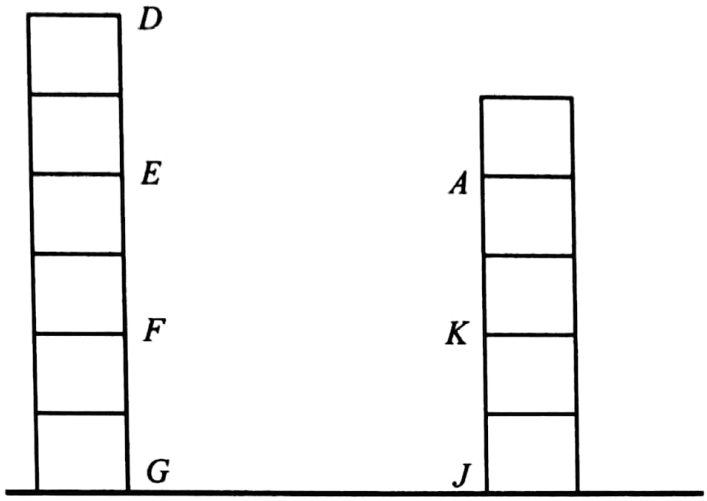


Diagram 10
Rajah 10

Which of the following is the angle of depression from point *K*?

Antara berikut, yang manakah sudut tunduk dari titik K?

A $\angle KGJ$

B $\angle FKG$

C $\angle KJG$

D $\angle GFK$

[Lihat halaman sebelah

16 In Diagram 11, *PU*, *QT* and *RS* are three vertical poles on a horizontal plane. The angle of elevation of *T* from *U* is 15° and the angle of depression of *S* from *T* is 35°.

Dalam Rajah 11, *PU*, *QT dan RS ialah tiga batang tiang tegak pada satah mengufuk. Sudut dongakan T dari U ialah* 15° *dan sudut tunduk S dari T ialah* 35°.

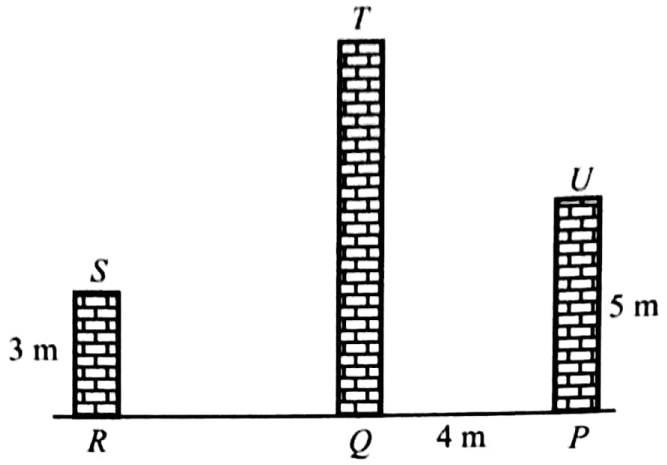


Diagram 11
Rajah 11

Calculate the distance, in m, from *Q* to *R*.

Hitung jarak, dalam m, *dari Q ke R.*

A 4·08

B 4·14

C 4·24

D 4·39

17 Post Office is located due north-east of Zeti's house. Mari Mart is located at bearing of 152° from Post Office and at bearing of 105° from Zeti's house.

Find the bearing of Zeti's house from Mari Mart.

Pejabat Pos terletak pada arah timur laut rumah Zeti. Mari Mart terletak pada bearing 152° *dari Pejabat Pos dan pada bearing* 105° *dari rumah Zeti.*

Cari bearing rumah Zeti dari Mari Mart.

A 075°

B 103°

C 208°

D 285°

18 $P(12° S, 20° E)$, Q and R are three points on the surface of the earth. Q lies due north of P. The difference in latitude between P and Q is 60°. R lies due east of Q. The difference in longitude between Q and R is 50°.

Find the location of R.

$P(12° S, 20° T)$, *Q dan R ialah tiga titik pada permukaan bumi. Q terletak ke utara P. Beza latitud antara P dan Q ialah* 60°. *R terletak ke timur Q. Beza longitud antara Q dan R ialah* 50°.

Cari kedudukan titik R.

A (72° S, 70° E)
(72° S, 70° T)

B (60° N, 30° E)
(60° U, 30° T)

C (48° S, 70° E)
(48° S, 70° T)

D (48° N, 70° E)
(48° U, 70° T)

  [Lihat halaman sebelah

19 $3(2x - y)^2 + 5xy =$

A $4x^2 + 2xy + 3y^2$

B $4x^2 - 7xy + 3y^2$

C $12x^2 - 7xy + 3y^2$

D $12x^2 - 18xy + 3y^2$

20 Express $\frac{m-1}{2m} - \frac{2+m}{3m}$ as a single fraction in its simplest form.

Ungkapkan $\frac{m-1}{2m} - \frac{2+m}{3m}$ *sebagai satu pecahan tunggal dalam bentuk termudah.*

A $\frac{m-7}{6m}$

B $\frac{m+7}{6m}$

C $\frac{7m-1}{6m}$

D $\frac{5m-7}{6m}$

21 Given that $x + \frac{y}{2} = \frac{1}{3}$, express y in terms of x.

Diberi bahawa $x + \frac{y}{2} = \frac{1}{3}$, *ungkapkan* y *dalam sebutan* x.

A $y = \frac{3-6x}{2}$

B $y = \frac{2-6x}{3}$

C $y = \frac{6-3x}{2}$

D $y = \frac{6-2x}{3}$

22 Given that $11 - \frac{y}{3} = 3(y - 3)$, find the value of y.

Diberi bahawa $11 - \frac{y}{3} = 3(y - 3)$, *cari nilai bagi* y.

A 3

B 6

C 9

D 12

23 Simplify:

Permudahkan:

$$\left[\frac{(8x^4)^{\frac{1}{2}} \times y^6}{y^4x^3}\right]^2$$

A $\frac{8y^4}{x^2}$

B $\frac{4y^2}{x}$

C $\frac{8y^2}{x}$

D $\frac{4y^4}{x}$

24 Given that $n^2 = (2^3)^{-1} \times 64^{\frac{3}{2}}$, find the value of n.

Diberi bahawa $n^2 = (2^3)^{-1} \times 64^{\frac{3}{2}}$, *cari nilai bagi* n.

A $\frac{1}{64}$

B 8

C 64

D 4096

[Lihat halaman sebelah

25 Solve:

Selesaikan:

$$6 - 5y \geq 7 + y$$

A $y \leq 7$

B $y \geq 7$

C $y \leq -\frac{1}{6}$

D $y \geq -\frac{1}{6}$

26 List all the integers d that satisfy both the simultaneous linear inequalities $d < 5$ and $13 - 2d \leq 7$.

Senaraikan semua integer d yang memuaskan kedua-dua ketaksamaan linear serentak $d < 5$ *dan* $13 - 2d \leq 7$.

A 2, 3

B 3, 4

C 2, 3, 4

D 3, 4, 5

27 Table 1 shows the test result of a group of students.

Jadual 1 *menunjukkan keputusan ujian bagi sekumpulan murid.*

Results ***Keputusan***	**Frequency** ***Kekerapan***
Distinction *Cemerlang*	10
Credit *Kepujian*	46
Pass *Lulus*	x
Fail *Gagal*	8

Table 1
Jadual 1

If the data is represented by a pie chart, the angle of the sector representing students who obtained credit is 207°, find the angle of the sector representing students who obtained pass.

Jika data diwakilkan dengan carta pai, sudut sektor mewakili murid yang mendapat kepujian ialah 207°, *cari sudut sektor yang mewakili murid yang lulus.*

A 72°

B 86°

C 100°

D 120°

  [Lihat halaman sebelah

28 Diagram 12 is a pictogram showing the number of telephone produced by a factory in January and February. The number of telephone produced in March and April are not shown.

Rajah 12 ialah piktogram yang menunjukkan bilangan telefon yang dihasilkan oleh sebuah kilang dalam bulan Januari dan Februari. Bilangan telefon yang dihasilkan dalam bulan Mac dan April tidak ditunjukkan.

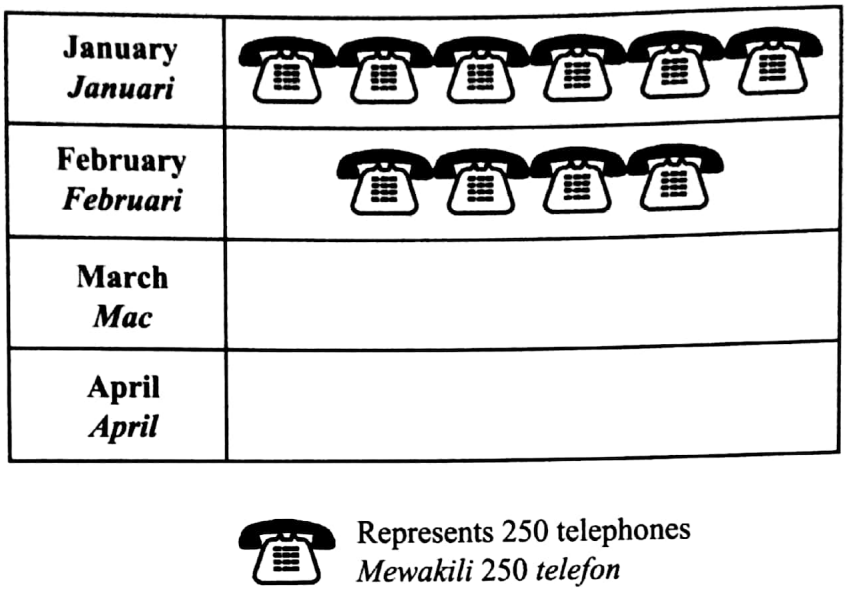


Diagram 12
Rajah 12

The number of telephones produced in January and March are in the ratio 3 : 2. The number of telephones produced in April was two times the number of telephone produced in February.

Calculate the total number of telephones produced in March and April.

Bilangan telefon yang dihasilkan dalam bulan Januari dan Mac adalah dalam nisbah 3 : 2. *Bilangan telefon yang dihasilkan dalam bulan April adalah dua kali bilangan telefon yang dihasilkan dalam bulan Februari.*

Hitung jumlah bilangan telefon yang dihasilkan dalam bulan Mac dan April.

A 2 750

B 3 000

C 4 250

D 6 750

29 Table 2 shows the favourite food of a group of students in a school.

Jadual 2 menunjukkan makanan kegemaran sekumpulan murid di sebuah sekolah.

Food ***Makanan***	Fried noodles *Mee goreng*	Fried rice *Nasi goreng*	Fried Maggi *Maggi goreng*	Fried *kuetiau* *Kuetiau goreng*
Frequency ***Kekerapan***	48	x	30	58

Table 2
Jadual 2

If the data is represented by a pie chart, the angle of the sector representing students who like fried *kuetiau* is 116° , find the percentage of students who like fried rice.

Jika data diwakilkan dengan carta pai, sudut sektor yang mewakili murid yang menggemari kuetiau goreng ialah 116° , *cari peratus murid yang menggemari nasi goreng.*

A 16·7

B 24·4

C 26·7

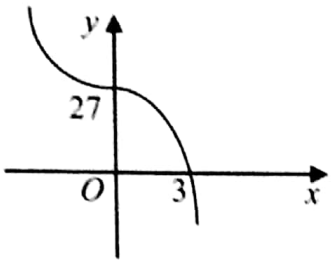
D 32·2

[Lihat halaman sebelah

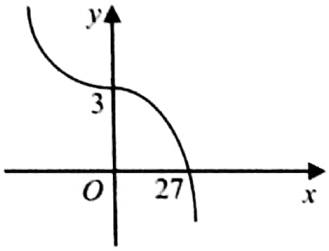
30 Which of the graph represents $y = -x^3 + 27$?

Graf manakah yang mewakili $y = -x^3 + 27$?

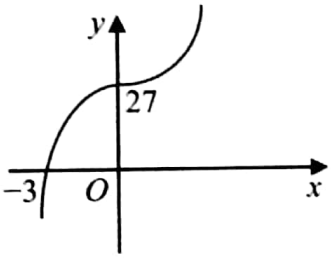
A



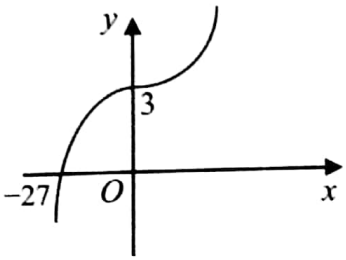
B



C



D



31 Diagram 13 shows a Venn diagram with the universal set $\xi = P \cup Q \cup R$.

Rajah 13 menunjukkan gambar rajah Venn dengan set semesta $\xi = P \cup Q \cup R$.

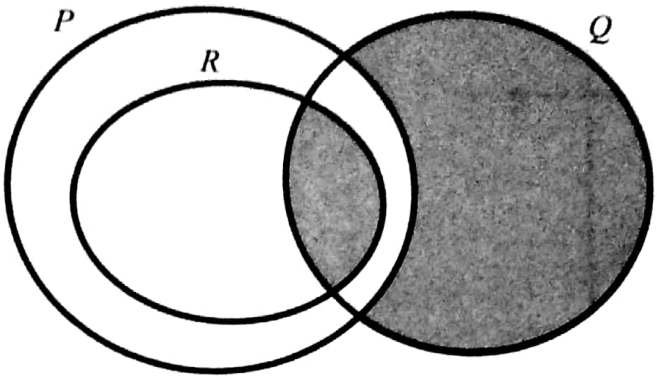


Diagram 13
Rajah 13

Which of the following represent the shaded region?

Antara yang berikut, yang manakah mewakili kawasan yang berlorek?

A $P \cup Q \cup R$

B $P \cap Q' \cup R$

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

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

32 List all the subset of the set G = {States in Malaysia whose names begin with the letter S}.

Senaraikan semua subset bagi set G = {Negeri-negeri di Malaysia yang bermula dengan huruf S}.

A {*Selangor*}, {*Sabah*}, {*Sarawak*}

B {*Selangor*}, {*Sabah*}, {*Sarawak*}, { }

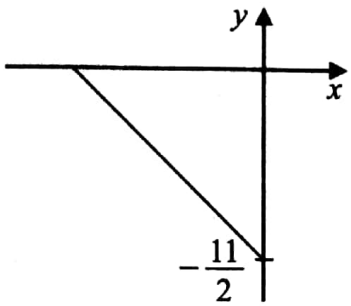
C {*Selangor*}, {*Sabah*}, {*Sarawak*}, {*Selangor, Sabah*}, {*Selangor, Sarawak*}, {*Sabah, Sarawak*}, {*Selangor, Sabah, Sarawak*}

D {*Selangor*}, {*Sabah*}, {*Sarawak*}, {*Selangor, Sabah*}, {*Selangor, Sarawak*}, {*Sabah, Sarawak*}, {*Selangor, Sabah, Sarawak*}, ϕ

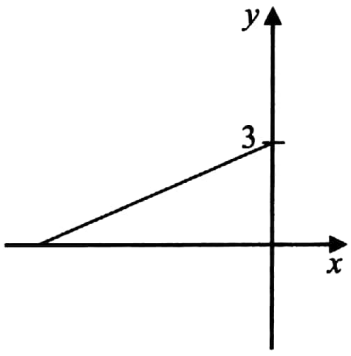
33 Which of the graph represents $-11 = 2y + 6x$?

Graf manakah yang mewakili $-11 = 2y + 6x$?

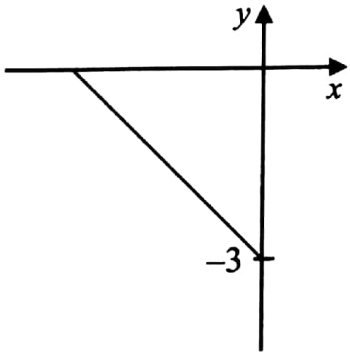
A



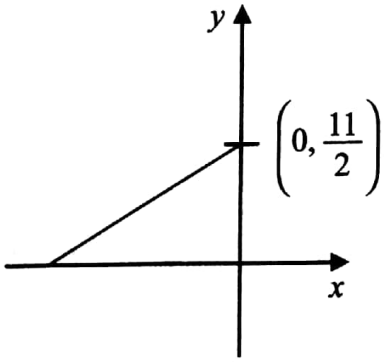
B



C



D



34 Diagram 14 shows a straight line RU drawn on a Cartesian plane.

Rajah 14 menunjukkan garis lurus RU yang dilukis pada suatu satah Cartes.

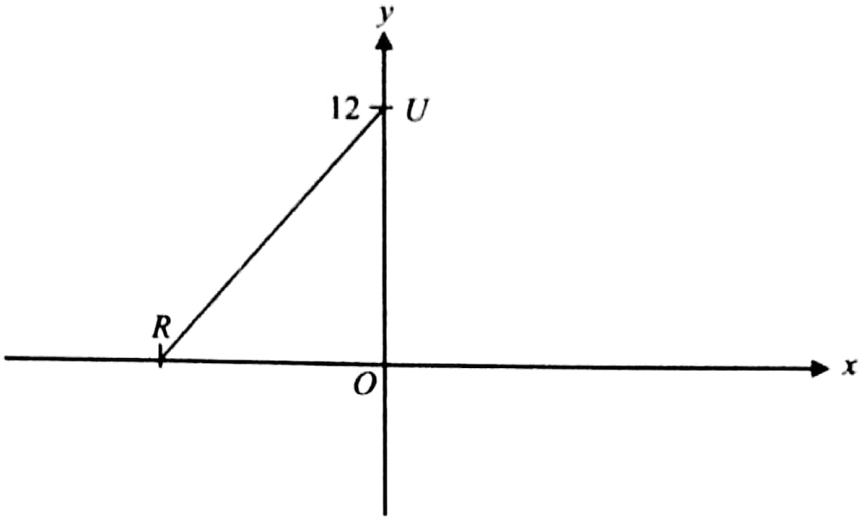


Diagram 14
Rajah 14

It is given that the equation of RU is $y = \frac{12}{5}x + 12$.

Find the x-intercept of the straight line RU.

Diberi bahawa persamaan garis lurus RU ialah $y = \frac{12}{5}x + 12$.

Cari pintasan-x bagi garis lurus RU.

A -5

B -3

C 3

D 5

  [Lihat halaman sebelah

35 A bag is filled with 40 yellow marbles and some grey marbles. A marble is chosen at random from the bag. The probability of choosing a yellow marble is $\frac{5}{8}$.
How many grey marbles are there in the bag?

Sebuah beg berisi 40 biji guli kuning dan beberapa biji guli berwarna kelabu. Sebiji guli dipilih secara rawak daripada beg. Kebarangkalian sebiji guli kuning dipilih ialah $\frac{5}{8}$.
Berapakah bilangan biji guli kelabu di dalam beg itu?

A 15

B 21

C 24

D 64

36 Table 3 shows the number of towel in a bag.
Jadual 3 menunjukkan bilangan tuala di dalam sebuah beg.

Towel ***Tuala***	Purple *Ungu*	Pink *Merah Jambu*	Green *Hijau*
Frequency ***Kekerapan***	186	150	x

Table 3
Jadual 3

A towel is chosen at random from the bag. The probability of choosing a pink towel is $\frac{3}{10}$.
Find the probability of choosing a green towel.

Sehelai tuala dipilih secara rawak daripada sebuah beg. Kebarangkalian memilih sehelai tuala merah jambu ialah $\frac{3}{10}$.
Cari kebarangkalian bagi memilih sehelai tuala hijau.

A $\frac{28}{125}$

B $\frac{41}{125}$

C $\frac{93}{250}$

D $\frac{127}{250}$

37 Table 4 shows some values of the variables A, B and C. Given that C varies directly with squared of A and varies inversely with B.

Jadual 4 menunjukkan beberapa nilai pemboleh ubah A, B dan C. Diberi bahawa C berubah secara langsung dengan kuasa dua A dan berubah secara songsang dengan B.

A	2	x
B	6	5
C	2	60

Table 4
Jadual 4

Calculate the value of x.

Hitung nilai bagi x.

A 3

B 4

C 10

D 18

  [Lihat halaman sebelah

38 Given that P varies directly as the square root of x and inversely as the cube of y. It is given that $P = 4$ when $x = 4$ and $y = 2$.

Express P in terms of x and y.

Diberi bahawa P berubah secara langsung dengan punca kuasa dua x dan secara songsang dengan kuasa tiga y. Diberi P = 4 apabila x = 4 dan y = 2.

Ungkapkan P dalam sebutan x dan y.

A $P = \dfrac{16x^2}{\sqrt[3]{y}}$

B $P = \dfrac{16\sqrt{x}}{y^3}$

C $P = \dfrac{16\sqrt{x}}{y^{\frac{1}{3}}}$

D $P = \dfrac{4\sqrt{x}}{y^3}$

39 $$\begin{pmatrix} 8 & -4 \\ -5 & 9 \end{pmatrix}\begin{pmatrix} -1 \\ x \end{pmatrix} = \begin{pmatrix} 4 \\ -22 \end{pmatrix}$$

Find the value of x.

Cari nilai x.

A 2

B −2

C 3

D −3

40 If $B - \begin{pmatrix} 7 & -2 \\ -5 & 3 \end{pmatrix} = \begin{pmatrix} 4 & 3 \\ 8 & -7 \end{pmatrix}$

Jika $B - \begin{pmatrix} 7 & -2 \\ -5 & 3 \end{pmatrix} = \begin{pmatrix} 4 & 3 \\ 8 & -7 \end{pmatrix}$

Then $B =$

Maka $B =$

A $\begin{pmatrix} 11 & 1 \\ 3 & -4 \end{pmatrix}$

B $\begin{pmatrix} 11 & 1 \\ 4 & -4 \end{pmatrix}$

C $\begin{pmatrix} 11 & 1 \\ 4 & -1 \end{pmatrix}$

D $\begin{pmatrix} 11 & 4 \\ 8 & -4 \end{pmatrix}$

END OF QUESTION PAPER
KERTAS PEPERIKSAAN TAMAT