NOMBOR DAN OPERASI
NUMBER AND OPERATIONS

1 $a^m \times a^n = a^{m+n}$

2 $a^m \div a^n = a^{m-n}$

3 $(a^m)^n = a^{mn}$

4 $a^{\frac{1}{n}} = \sqrt[n]{a}$

5 $a^{\frac{m}{n}} = (a^m)^{\frac{1}{n}} = \left(a^{\frac{1}{n}}\right)^m$

6 $a^{\frac{m}{n}} = \sqrt[n]{a^m} = \left(\sqrt[n]{a}\right)^m$

7 Faedah mudah / *Simple interest,*

I = Prt

8 Nilai matang / *Maturity value*,

MV = $P\left(1+\frac{r}{n}\right)^{nt}$

9 Jumlah bayaran balik / *Total repayment*, *A = P + Prt*

10 Premium = $\frac{\text{Nilai muka polisi}}{\text{RM}x} \times$ (Kadar premium per RM*x*)

Premium = $\frac{Face\ value\ of\ policy}{\text{RM}x} \times$ (*Premium rate per* RM*x*)

11 Jumlah insurans yang harus dibeli = $\begin{pmatrix}\text{Peratusan}\\ \text{ko}-\text{insurans}\end{pmatrix} \times \begin{pmatrix}\text{Nilai boleh}\\ \text{insurans harta}\end{pmatrix}$

Amount of required insurance = $\begin{pmatrix}Percentage\ of\\ co-insurance\end{pmatrix} \times \begin{pmatrix}Insurable\ value\\ of\ property\end{pmatrix}$

PERKAITAN DAN ALGEBRA
RELATIONSHIP AND ALGEBRA

1 Jarak / *Distance*

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

2 Titik tengah / *Midpoint*,

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

3 Laju purata = $\frac{\text{Jumlah jarak}}{\text{Jumlah masa}}$

Average speed = $\frac{Total\ distance}{Total\ time}$

4 $m = \frac{y_2 - y_1}{x_2 - x_1}$

5 $A^{-1} = \frac{1}{ad-bc}\begin{pmatrix} d & -b \\ -c & a \end{pmatrix}$

6 $m = -\frac{\text{pintasan } y}{\text{pintasan } x}$

$m = -\frac{y\ intercept}{x\ intercept}$

SUKATAN DAN GEOMETRI
MEASUREMENT AND GEOMETRY

1 Teorem Pythagoras / *Pythagoras Theorem*, $c^2 = a^2 + b^2$

2 Hasil tambah sudut pedalaman poligon / *Sum of interior angles of a polygon*
$= (n - 2) \times 180^0$

3 Lilitan bulatan $= \pi d = 2 \pi j$
Circumference of circle $= \pi d = 2 \pi r$

4 Luas bulatan $= \pi j^2$
Area of circle $= \pi r^2$

5 $$\frac{\text{Panjang lengkok}}{2\pi j} = \frac{\theta}{360°}$$
$$\frac{Arc\ length}{2\pi r} = \frac{\theta}{360°}$$

6 $$\frac{\text{Luas sektor}}{\pi \text{j}^2} = \frac{\theta}{360°}$$
$$\frac{Area\ of\ sector}{\pi r^2} = \frac{\theta}{360°}$$

7 Luas lelayang $= \frac{1}{2} \times$ hasil darab panjang dua pepenjuru
Area of kite $= \frac{1}{2} \times$ *product of the length of two diagonals*

8 Luas trapezium $= \frac{1}{2} \times$ hasil tambah dua sisi selari $\times$ tinggi
Area of trapezium $= \frac{1}{2} \times$ *sum of two parallel sides* $\times$ *height*

9 Luas permukaan silinder $= 2\pi j^2 + 2\pi jt$
Surface area of cylinder $= 2\pi r^2 + 2\pi rh$

10 Luas permukaan kon $= \pi j^2 + \pi js$
Surface area of cone $= \pi r^2 + \pi rs$

11 Luas permukaan sfera $= 4\pi j^2$
Surface area of sphere $= 4\pi r^2$

12 Isi padu prisma = luas keratan rentas $\times$ tinggi
Volume of prism = area of cross section $\times$ *height*

13 Isi padu silinder $= \pi j^2 t$
Volume of cylinder $= \pi r^2 h$

14 Isi padu kon = $\frac{1}{3}\pi j^2 t$

Volume of cone = $\frac{1}{3}\pi r^2 h$

15 Isi padu sfera = $\frac{4}{3}\pi j^3$

Volume of sphere = $\frac{4}{3}\pi r^3$

16 Isi padu piramid = $\frac{1}{3}$ × luas tapak × tinggi

Volume of pyramid = $\frac{1}{3}$ × *base area* × *height*

17 Faktor skala, $k = \frac{PA'}{PA}$

Scale factor, $k = \frac{PA'}{PA}$

18 Luas imej = k^2 × luas objek

Area of image = k^2 × *area of object*

STATISTIK DAN KEBARANGKALIAN
STATISTICS AND PROBABILITY

1 Min / *Mean*, $\bar{x} = \frac{\sum x}{N}$

2 Min / *Mean*, $\bar{x} = \frac{\sum fx}{\sum f}$

3 Varians / *Variance*, $\sigma^2 = \frac{\sum(x-\bar{x})^2}{N} = \frac{\sum x^2}{N} - \bar{x}^2$

4 Varians / *Variance*, $\sigma^2 = \frac{\sum f(x-\bar{x})^2}{\sum f} = \frac{\sum fx^2}{\sum f} - \bar{x}^2$

5 Sisihan piawai / *Standard deviation*, $\sigma = \sqrt{\frac{\sum(x-\bar{x})^2}{N}} = \sqrt{\frac{\sum x^2}{N} - \bar{x}^2}$

6 Sisihan piawai / *Standard deviation*, $\sigma = \sqrt{\frac{\sum f(x-\bar{x})^2}{\sum f}} = \sqrt{\frac{\sum fx^2}{\sum f} - \bar{x}^2}$

7 $P(A) = \frac{n(A)}{n(S)}$

8 $P(A') = 1 - P(A)$

Jawab **semua** soalan.

1 Seorang murid Sains Komputer sedang menyelamatkan data lama yang disimpan dalam kod asas 3. Salah satu nombor ialah 2101_3. Dia perlu menukarkan nombor itu kepada asas 5 untuk digunakan dalam sistem baharu. Apakah nombor tersebut dalam asas 5 ?
A Computer Science student is in the process of recovering old data stored in base 3 *code*. *One of the numbers is* 2101_3. *He needs to convert this number into base* 5 *to be use in a new system. What is the number in base* 5 ?

A 221_5 **C** 231_5

B 224_5 **D** 242_5

2 Hitung 34 – 9. Nyatakan jawapan dalam asas 8.
Calculate 34 – 9. *Express the answer in base* 8.

A 15_8 **C** 25_8

B 21_8 **D** 31_8

3

2 ialah nombor perdana atau 4 ialah nombor ganjil. 2 *is a prime number or* 4 *is an odd number.*

Apakah nilai kebenaran pernyataan tersebut ?
What is the truth value of the statement ?

A Benar
True

C Palsu
False

B Salah
Wrong

D Betul
Correct

4 Berikut ialah sebahagian daripada satu jujukan nombor.
The following is part of a number sequence.

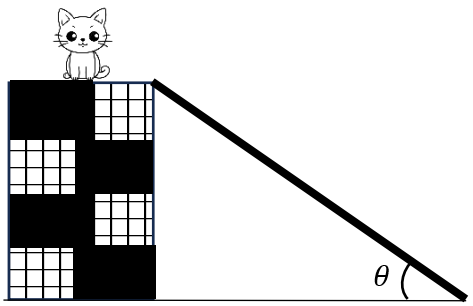
1.5 , x , y , 40.5 , 121.5

Nyatakan nilai x dan nilai y.
State the value of x and of y.

A $x = 2.5$, $y = 6.5$ **C** $x = 4.5$, $y = 9.0$

B $x = 3.0$, $y = 6.0$ **D** $x = 4.5$, $y = 13.5$

5 Rajah 1 menunjukkan seekor kucing telah terperangkap di atas sebuah tembok yang berketinggian 3 meter. Ali ingin menyelamatkan kucing tersebut dengan menggunakan tangga yang panjangnya 5 meter seperti dalam rajah. Cari tan θ.
Diagram 1 *shows a cat trapped on a wall that is* 3 *metres high. Ali wants to rescue the cat using a ladder that is* 5 *metres long as shown in the diagram. Find tan θ.*



Rajah 1 / *Diagram* 1

A $\frac{3}{4}$ **C** $\frac{3}{5}$

B $\frac{4}{3}$ **D** $\frac{5}{3}$

6 Permudahkan / *Simplify* $8x^8 \times 3x^5 \div 6x^4$.

A $5x^{10}$ **C** $4x^{10}$

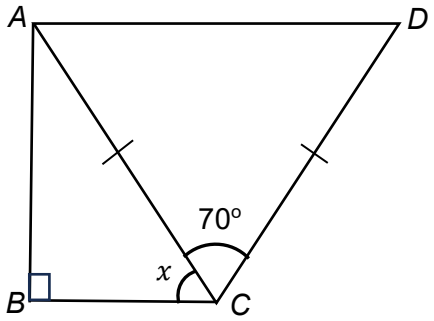
B $5x^9$ **D** $4x^9$

7 Bundarkan 3.2055 kepada 3 angka bererti.
Round off 3.2055 *to* 3 *significant figures*.

A 3.20 **C** 3.205

B 3.21 **D** 3.206

8 Pada Rajah 2, *ABCD* ialah trapezium dan *ACD* ialah segi tiga sama kaki.
On Diagram 2, ABCD is a trapezium and ACD is an isosceles triangle.



Rajah 2 / *Diagram* 2

Cari nilai x.
Find the value of x.

A 20° **C** 55°

B 45° **D** 70°

9 Antara berikut, yang manakah ungkapan kuadratik dalam satu pemboleh ubah ?
Which of the following is a quadratic expression in one variable ?

A $x^2 - 5$ **C** $3y^2 - 3x + 1$

B $2x^2 - x^{-2}$ **D** $x^3 - x$

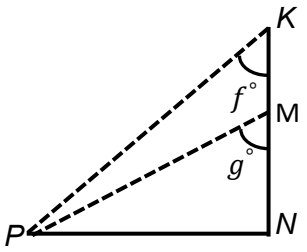
10 Bilangan darjah yang manakah boleh digunakan untuk melukis satu graf mudah ?
What number of degrees can be used to draw a simple graph ?

A 3, 2, 2, 1, 3 **C** 2, 1, 1, 3, 3, 2

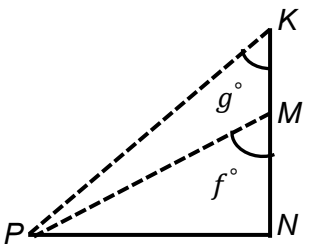
B 2, 4, 4, 5, 2 **D** 3, 2, 1, 4, 2, 1

11 *K, M* dan *N* ialah tiga titik pada sebatang tiang tegak. *P* ialah titik yang terletak pada tanah mengufuk. Sudut tunduk *P* dari *K* ialah f° dan sudut tunduk *P* dari *M* ialah g°. Rajah manakah yang mewakili situasi tersebut?
K, M and N are three points on a vertical pole. P is a point on the horizontal ground. The angle of depression of P from K is f° and the angle of depression of P from M is g°. Which diagram represents the situation?

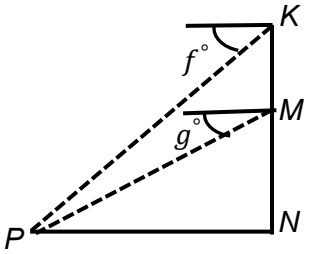
A



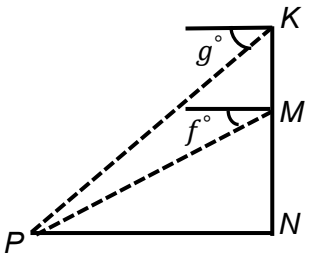
C



B



D



12 $(5 \quad -2 \quad 4) - (-1 \quad 0 \quad 3) + (-2 \quad 4 \quad 6) =$

A $(4 \quad 2 \quad 7)$

B $(2 \quad -2 \quad 7)$

C $(6 \quad 4 \quad 13)$

D $(4 \quad -2 \quad 13)$

13 $(2 \quad -1)\begin{pmatrix} 1 & 0 & 3 \\ 4 & -1 & -2 \end{pmatrix} =$

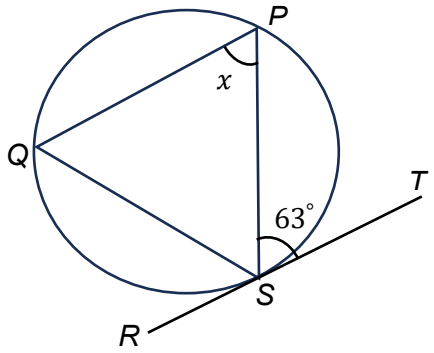
A $(-6 \quad 1 \quad 8)$

B $\begin{pmatrix} -6 \\ 1 \\ 8 \end{pmatrix}$

C $(-2 \quad 1 \quad 8)$

D $\begin{pmatrix} -2 \\ 1 \\ 8 \end{pmatrix}$

14 Rajah 3 menunjukkan sebuah bulatan *PQS* dengan *RST* ialah tangen kepada bulatan pada titik *S*.
Diagram 3 *shows a circle PQS with RST is a tangent to the circle at point S.*



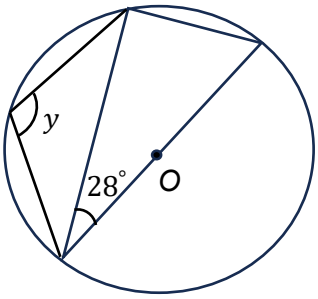
Rajah 3 / *Diagram* 3

Panjang lengkok *PS* adalah sama panjang dengan panjang lengkok *PQ.*
Cari nilai *x*.
The arc length of PS is equal to the arc length of PQ. Find the value of x.

A 27° **C** 54°

B 36° **D** 60°

15 Rajah 4 menunjukkan sebuah bulatan berpusat *O.*
Diagram 4 *shows a circle with centre O.*



Rajah 4 / *Diagram* 4

Nyatakan nilai *y*.
State the value of y.

A 62° **C** 118°

B 90° **D** 152°

16 Berdasarkan maklumat dalam Jadual 1, yang manakah mewakili bentuk matriks yang betul ?
Based on the information in Table 1, *which of the following represents the matrix form correctly* ?

Tingkatan ***Form***	**Bilangan buku dibaca** ***Number of books read***		
	Bahasa Cina	**Bahasa Melayu**	**Bahasa Inggeris** ***English***
4	8	11	15
5	3	17	20

Jadual 1 / *Table* 1

A $(4 \quad 8 \quad 11 \quad 15)$

B $\begin{pmatrix} 8 & 11 & 15 \\ 3 & 17 & 20 \end{pmatrix}$

C $(5 \quad 3 \quad 17 \quad 20)$

D $\begin{pmatrix} 4 & 8 & 11 & 15 \\ 5 & 3 & 17 & 20 \end{pmatrix}$

17 Permudahkan ungkapan berikut
Simplify the following expression

$$\frac{3}{p} - \frac{4}{p-3}$$

A $\dfrac{p-9}{p^2-3p}$

B $\dfrac{-p-9}{p^2-3p}$

C $\dfrac{-p+9}{p^2+3p}$

D $\dfrac{9-p}{p^2-3p}$

18 Diberi $p = 4q - 3r - 2$. Hitung nilai r apabila $p = 16$ dan $q = 3$.
Given $p = 4q - 3r - 2$. *Calculate the value of* r *when* $p = 16$ *and* $q = 3$.

A 3

B 9

C – 2

D – 18

19 Kecerunan garis lurus yang melalui titik *M* dan *N*(0, 12) ialah $-\frac{6}{5}$. Jika titik *M* berada di paksi-*x*, tentukan koordinat titik *M*.

The gradient of straight line passing through point M and N(0, 12) *is* $-\frac{6}{5}$*. If point M is located at x-axis, determine the coordinate of point M.*

A (10, 0) **C** (10, 12)

B (0, 10) **D** (12, 10)

20 Tentukan persamaan garis lurus yang selari dengan garis lurus $\frac{x}{3}+\frac{y}{2}=1$ dan melalui titik *P* (–9, 2).

Determine the equation of a straight line that is parallel to the straight line $\frac{x}{3}+\frac{y}{2}=1$ *and passes through point P* (–9, 2).

A $y=\frac{2}{3}x-4$ **C** $y=-\frac{2}{3}x-4$

B $y=\frac{2}{3}x+4$ **D** $y=-\frac{2}{3}x+4$

21 Nazri sedang mencuci akuariumnya. Air di dalam akuarium dikeluarkan menggunakan paip getah. Paras air, *h*, di dalam akuarium berubah secara songsang dengan masa, *t*. Selepas 20 minit, paras air di dalam akuarium ialah 60 cm. Hitung paras air, *h*, dalam cm, selepas $\frac{2}{3}$ jam.

Nazri is washing his aquarium. *Water from the aquarium is removed using a rubber pipe. The water level, h, in the aquarium varies inversely with time, t. After* 20 *minutes, the water level in the aquarium is* 60 cm*. Calculate the water level, h, in cm, after* $\frac{2}{3}$ *hours.*

A 20 **C** 30

B 25 **D** 35

22 Jadual 2 menunjukkan nilai-nilai bagi pemboleh ubah *p, q* dan *r*.
Table 2 *shows the values of variables p, q and r.*

p	***q***	***r***
5	25	x
12	4	x^2

Jadual 2 / *Table* 2

Diberi bahawa *p* berubah secara langsung dengan punca kuasa dua *q* dan secara songsang dengan kuasa dua *r*. Ungkapkan *p* dalam sebutan *q* dan *r.*
Given that p varies directly as the square root of q and inversely as the square of r. Express p in terms of q and r.

A $p = \frac{\sqrt{q}}{6r^2}$

B $p = \frac{6\sqrt{q}}{6r}$

C $p = \frac{\sqrt{q}}{36r^2}$

D $p = \frac{36\sqrt{q}}{r^2}$

23

104,	107,	101,	124,	119,	106,	113

Hitung julatnya.
Calculate the range.

A 23

B 20

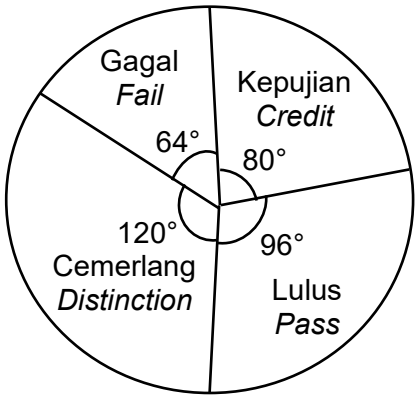
C 9

D 8

24 Jadual 3 menunjukkan nilai gred yang diperoleh 45 orang murid dalam suatu ujian. Keputusan ujian itu ditunjukkan dalam carta pai seperti Rajah 5.
Table 3 *shows the grade values obtained by* 45 *students in a test. The test result is shown in the pie chart in Diagram* 5.

Nilai gred ***Grade value***	**Bilangan murid** ***Number of students***
Cemerlang *Distinction*	15
Kepujian *Credit*	10
Lulus *Pass*	12
Gagal *Fail*	8

Jadual 3 / *Table* 3



Rajah 5 / *Diagram* 5

Antara yang berikut, nilai gred manakah yang mempunyai sudut sektor yang telah dilabelkan dengan salah ?
Which of the following grade values has an angle of the sector that is wrongly labelled ?

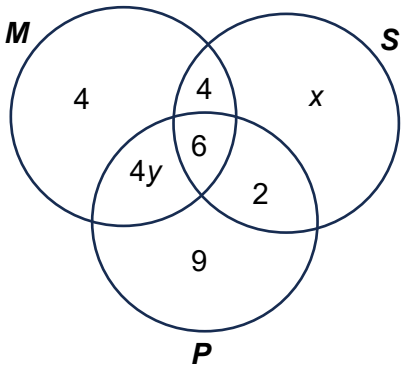
A Cemerlang *Distinction*
B Kepujian *Credit*
C Lulus *Pass*
D Gagal *Fail*

25 Diberi ξ = {*x*: *x* ialah integer dan 4 ≤ x ≤ 14}, *P* = {nombor dua digit} dan *Q* = {nombor gandaan 2}. Nyatakan *n*(*P* ∩ *Q*)'.
Given that, ξ = {*x*: *x is an integer and* 4 ≤ x ≤ 14}, *P* = {*two digits numbers*} *and Q* = {*multiple of* 2}. *State n*(*P* ∩ *Q*)'.

A 2
B 3
C 7
D 8

26 Rajah 6 menunjukkan gambar rajah Venn bagi sekumpulan 60 orang murid.
Diberi bahawa set semesta, $\xi = \{M \cup S \cup P\}$, *M* = {ahli Kelab Doktor Muda}, *S* = {ahli Persatuan STEM} dan *P* = {ahli Pasukan Bulan Sabit Merah}.

Diagram 6 *shows a Venn diagram for a group of* 60 *students.*
It is given that the universal set, $\xi = \{M \cup S \cup P\}$, *M* = {*member of the Young Doctors Club*}, *S* = {*member of the STEM Society*} *and P* = {*member of the Red Crescent Team*}.



Rajah 6 / *Diagram* 6

30 orang murid menyertai dua unit sahaja. Hitung jumlah murid yang hanya menyertai satu aktiviti sahaja.
30 *students joined two units only. Calculate the number of students who participated in only one activity.*

A 11 **C** 24

B 16 **D** 30

27 Asmah memiliki sebuah rumah kediaman di Merlimau yang nilai tahunannya RM6 420 dan mempunyai kadar cukai pintu sebanyak 5%. Hitung cukai pintu yang perlu dibayar oleh Asmah setiap tahun.
Asmah owns a house in Merlimau with an annual value of RM6 420 *and a property assessment tax rate of* 5%. *Calculate the property assessment tax that Asmah must pay each year.*

A RM160.50 **C** RM1 605.00

B RM321.00 **D** RM3 210.00

28 Basri mempunyai jumlah pendapatan tahunan sebanyak RM64 450 pada tahun 2024. Beliau telah mendermakan sebanyak RM1 000 kepada rumah anak yatim yang telah diiktiraf oleh kerajaan. Jadual 4 menunjukkan pelepasan cukai yang dituntutnya.
Basri has a total annual income of RM64 450 *in* 2024. *He donated* RM1 000 *to an orphanage that has been recognized by the government. Table* 4 *shows the tax relief he claimed.*

Pelepasan cukai ***Tax relief***	**Amaun (RM)** ***Amount* (RM)**
Individu *Individual*	9 000
Insurans perubatan (had RM2 000) *Medical insurance* (*limit* RM2 000)	2 000
Insurans hayat dan KWSP (had RM6 500) *Life insurance and* EPF (*limit* RM6 500)	7 000

Jadual 4 / *Table* 4

Hitung pendapatan bercukai Basri.
Calculate Basri's income chargeable income.

A RM45 450
B RM45 550
C RM45 850
D RM45 950

29 Jika *R* ialah satu titik yang bergerak pada satah Cartes dengan keadaan jarak antara *R* dan titik (-3,4) ialah 6 unit, maka lokus *R* ialah suatu
If R is a moving point in Cartesian plane such that the distance between R and the point (-3,4*) is equal to* 6 *units, then the locus of R is a/an*

A Segi tiga sama sisi
Equilateral triangle
B Garis lurus mencancang
Straight vertical line
C Garis lurus selari dengan paksi-*x*
Straight line parallel to the x-axis
D Bulatan
Circle

30 Jadual 5 menunjukkan jualan kentang goreng dan cendawan goreng di dua buah gerai.
Table 5 *shows the sales of french fries and fried mushrooms at two stalls.*

Gerai ***Stall***	**Bilangan cawan** ***Number of cups***	
	Kentang goreng ***French fries***	**Cendawan goreng** ***Fried mushrooms***
P	56	32
Q	34	27

Jadual 5 / *Table* 5

Jika dua cawan yang dijual dipilih secara rawak dari Gerai *Q*, cari kebarangkalian kedua-dua yang dipilih ialah cendawan goreng.
If two cups sold are chosen randomly from Stall Q, find the probability that both chosen are fried mushrooms.

A $\frac{117}{610}$

B $\frac{729}{3721}$

C $\frac{351}{711}$

D $\frac{918}{3721}$

31 Jadual 6 menunjukkan harga seunit saham yang dibeli oleh Steven.
Table 6 *shows the prices per unit of shares purchased by Steven.*

Bulan ***Month***	**Mac** ***March***	**April** ***April***	**Mei** ***May***	**Jun** ***June***	**Julai** ***July***
Harga seunit (RM) *Unit price* (RM)	2.60	2.40	2.14	2.32	2.45

Jadual 6 / *Table* 6

Jika Steven melabur RM1 000 dalam amanah saham untuk setiap bulan tersebut, hitung kos purata seunit saham yang dibeli olehnya.
If Steven invests RM1 000 *in a unit trust for each month, calculate the average cost per unit of shares purchased by him.*

A RM2.35

B RM2.36

C RM2.37

D RM2.38

32 Jadual 7 menunjukkan pendapatan Faiz.
Table 7 *shows Faiz's income.*

Gaji ***Salary***	**Elaun** ***Allowance***	**Dividen** ***Divident***	**Sewa diterima** ***Rental received***
RM4 500	RM550	RM170	RM800

Jadual 7 */ Table* 7

Hitung pendapatan aktif Faiz.
Calculate the active income of Faiz.

A RM4 500

B RM5 050

C RM5 220

D RM5 300

33 Dalam satu pertandingan sukan, seorang peserta perlu berlari sekurang-kurangnya 3 km dan berbasikal tidak lebih daripada 15 km. Jika x mewakili jarak larian dan y mewakili jarak berbasikal, apakah sistem ketaksamaan linear bagi situasi ini ?
In a sports competition, a participant must run at least 3 km *and cycle not more than* 15 km. *If x represents the running distance and y represents the cycling distance, what system of linear inequalities represents this situation* ?

A $x \geq 3, y < 15$

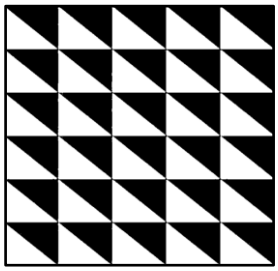
B $x \leq 3, y > 15$

C $x \leq 3, y \leq 15$

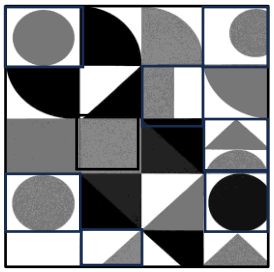
D $x \geq 3, y \leq 15$

34 Antara berikut, yang manakah **bukan** suatu teselasi ?
*Which of the following is **not** a tessellation* ?

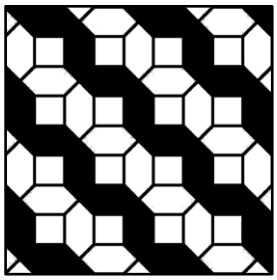
A



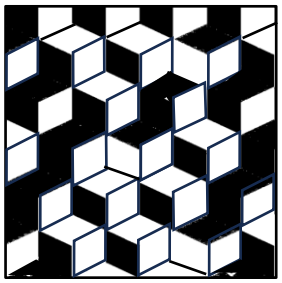
C



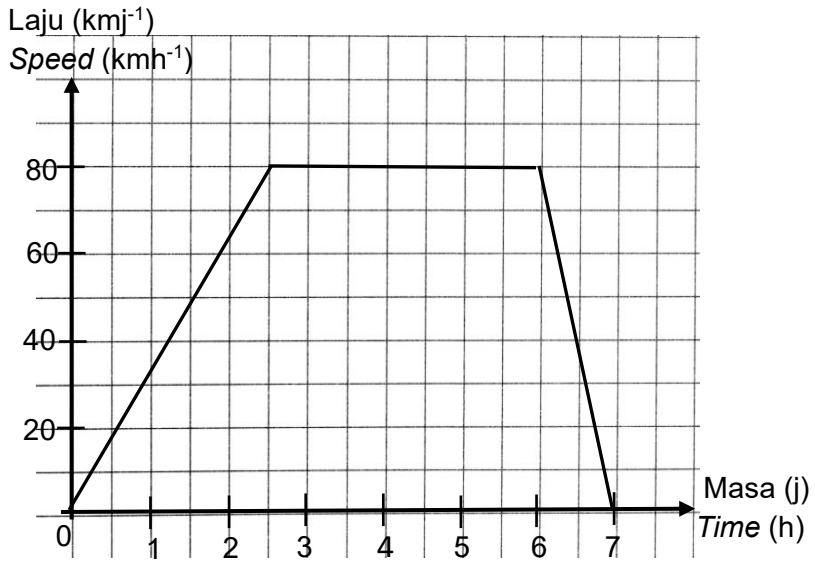
B



D



35 Rajah 7 menunjukkan graf laju-masa bagi sebuah kereta.
Diagram 7 shows the speed-time graph of a car.



Rajah 7 / *Diagram* 7

Hitung jumlah jarak, dalam km, yang dilalui kereta tersebut dalam tempoh 7 jam.
Calculate the total distance, in km, the car travels in 7 hours.

A 280 **C** 440

B 420 **D** 560

36 Manakah yang **tidak** berkaitan dengan kadar dan premium insurans ?
*Which of the following is **not** related to rates and insurance premium* ?

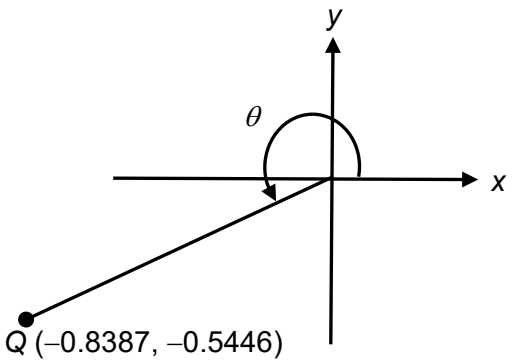
A Nilai muka polisi ialah jumlah wang yang dipilih oleh syarikat insurans untuk mendapatkan perlindungan insurans.
The face value of a policy is the amount of money chosen by the insurance company to provide insurance coverage.

B Pengiraan premium insurans merujuk kepada jadual kadar premium bagi setiap RM*x* nilai muka.
The calculation of insurance premiums refers to the premium rate table for every RM*x of face value.*

C Nilai premium insurans yang dibayar adalah bergantung kepada nilai muka yang dipilih, umur, jantina dan sama ada merokok atau tidak.
The amount of insurance premium paid depends on the chosen face value, age, gender, and whether the person smokes or not.

D Jadual kadar premium memberikan amaun kasar premium yang dikenakan kepada pemegang polisi.
The premium rate table provides the gross amount of premium charged to the policyholder.

37 Rajah 8 menunjukkan titik *Q* yang ditanda pada suatu satah Cartes.
Diagram 8 *shows point Q plotted on a Cartesian plane.*



Rajah 8 / *Diagram* 8

Hitung nilai θ.
Calculate the value of θ.

A 123° **C** 213°

B 147° **D** 215°

38 Rajah 9 menunjukkan sebuah bekas berbentuk silinder yang dipenuhi air.
Diagram 9 *shows a cylindrical container fully filled with water.*

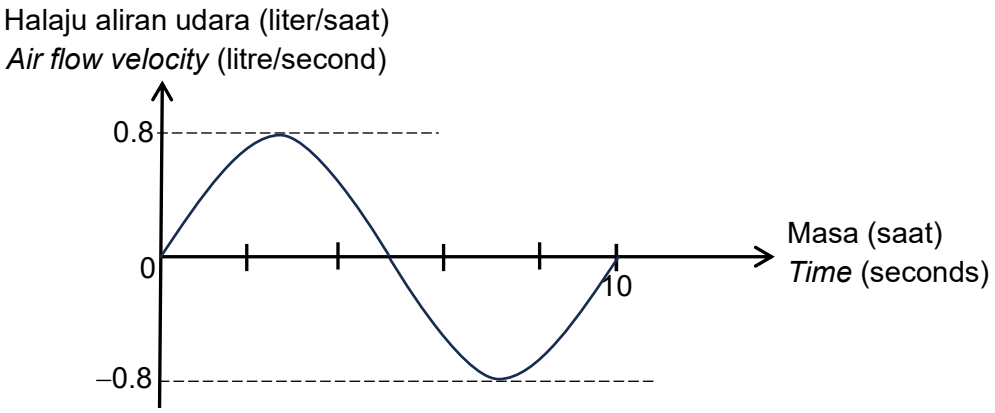
Rajah 9 / *Diagram* 9

Diberi tinggi silinder itu adalah dua kali jejari silinder. Hitung luas permukaan silinder tersebut. [Guna $\pi = \frac{22}{7}$]
Given the height of the cylinder is twice the radius of the cylinder. Calculate the surface area of the cylinder. [*Use* $\pi = \frac{22}{7}$]

A 308 **C** 770

B 616 **D** 924

39 Rajah 10 menunjukkan satu kitaran pernafasan yang lengkap. Kitaran ini terdiri daripada proses menarik nafas dan menghembus nafas. Halaju aliran udara adalah positif apabila nafas ditarik dan negatif apabila nafas dihembus. Halaju ini diukur dalam liter per saat.
Diagram 10 *shows a complete respiratory cycle. This cycle consists of the processes of inhale and exhale. The airflow velocity is positive when inhaled and negative when exhaled. This velocity is measured in liters per second.*



Rajah 10 / *Diagram* 10

Nyatakan fungsi dalam bentuk $y = a \sin bx + c$ yang memodelkan aliran udara dalam kitaran pernafasan normal yang ditunjukkan.
State a function in the form $y = a \sin bx + c$ *that models airflow in a normal respiratory cycle shown.*

A $y = 0.8 \sin 36x$ **C** $y = 8 \sin 36x$

B $y = 0.8 \sin 72x$ **D** $y = 8 \sin 72x$

40 Sehelai baju diambil secara rawak dari sebuah beg yang mengandungi 2 helai baju berwarna hijau, 5 helai baju berwarna merah dan 6 helai baju berwarna kuning. Cari kebarangkalian baju berwarna kuning diambil.
A shirt is picked at random from a bag that contains 2 *green shirts,* 5 *red shirts and* 6 *yellow shirts. Find the probability of getting a yellow shirt.*

A $\frac{2}{13}$ **C** $\frac{6}{13}$

B $\frac{5}{13}$ **D** $\frac{11}{13}$

KERTAS PEPERIKSAAN TAMAT
END OF QUESTION PAPER