



MAJLIS PENGETUA SEKOLAH MALAYSIA NEGERI SELANGOR

PENILAIAN INTERVENSI TERBILANG AKADEMIK SELANGOR (PINTAS) 2026 MATEMATIK TINGKATAN 5

Kertas 1

1 jam 30 minit

1449/1

JANGAN BUKA KERTAS PEPERIKSAAN INI SEHINGGA DIBERITAHU

1. *Kertas peperiksaan ini mengandungi 40 soalan.*
2. *Jawab semua soalan.*
3. *Bagi setiap soalan, pilih satu jawapan sahaja. Hitamkan jawapan anda pada kertas jawapan objektif yang disediakan.*
4. *Kertas peperiksaan ini adalah dalam dwibahasa.*
5. *Rajah yang mengiringi soalan tidak dilukis mengikut skala kecuali dinyatakan.*

Kertas peperiksaan ini mengandungi 32 halaman bercetak.

NOMBOR DAN OPERASI
NUMBERS AND OPERATIONS

- | | |
|--|---|
| <p>1 $a^m \times a^n = a^{m+n}$</p> <p>3 $(a^m)^n = a^{mn}$</p> <p>5 $a^{\frac{m}{n}} = (a^m)^{\frac{1}{n}} = \left(a^{\frac{1}{n}}\right)^m$</p> <p>7 Faedah mudah / <i>Simple interest</i>,
$I = Prt$</p> <p>9 Jumlah bayaran balik / <i>Total repayment</i>, $A = P + Prt$</p> <p>10 $\text{Premium} = \frac{\text{Nilai muka polisi}}{\text{RMx}} \times (\text{Kadar premium per RMx})$</p> <p>$\text{Premium} = \frac{\text{Face value of policy}}{\text{RMx}} \times (\text{Premium rate per RMx})$</p> <p>11 Jumlah insurans yang harus dibeli = $\left(\frac{\text{Peratusan}}{\text{ko-insurans}}\right) \times \left(\frac{\text{Nilai boleh}}{\text{insurans harta}}\right)$</p> <p>$\text{Amount of required insurance} = \left(\frac{\text{Percentage of}}{\text{co-insurance}}\right) \times \left(\frac{\text{Insurable value}}{\text{of property}}\right)$</p> | <p>2 $a^m \div a^n = a^{m-n}$</p> <p>4 $a^{\frac{1}{n}} = \sqrt[n]{a}$</p> <p>6 $a^{\frac{m}{n}} = \sqrt[n]{a^m} = \left(\sqrt[n]{a}\right)^m$</p> <p>8 Nilai matang / <i>Maturity value</i>,
$MV = P\left(1 + \frac{r}{n}\right)^{nt}$</p> |
|--|---|

PERKAITAN DAN ALGEBRA
RELATIONSHIP AND ALGEBRA

- | | |
|--|--|
| <p>1 Jarak / <i>Distance</i>
$= \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$</p> <p>3 Laju purata = $\frac{\text{Jumlah jarak}}{\text{Jumlah masa}}$</p> <p>$\text{Average speed} = \frac{\text{Total distance}}{\text{Total time}}$</p> <p>5 $A^{-1} = \frac{1}{ad - bc} \begin{pmatrix} d & -b \\ -c & a \end{pmatrix}$</p> | <p>2 Titik tengah / <i>Midpoint</i>,
$(x, y) = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$</p> <p>4 $m = \frac{y_2 - y_1}{x_2 - x_1}$</p> <p>6 $m = -\frac{\text{pintasan-y}}{\text{pintasan-x}}$</p> <p>$m = -\frac{\text{y-intercept}}{\text{x-intercept}}$</p> |
|--|--|

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*
 $= (n - 2) \times 180^\circ$
- 3 Lilitan bulatan $= \pi d = 2\pi r$
Circumference of circle $= \pi d = 2\pi r$
- 4 Luas bulatan $= \pi r^2$
Area of circle $= \pi r^2$
- 5 $\frac{\text{Panjang lengkok}}{2\pi r} = \frac{\theta}{360^\circ}$
 $\frac{\text{Arc length}}{2\pi r} = \frac{\theta}{360^\circ}$
- 6 $\frac{\text{Luas sektor}}{\pi r^2} = \frac{\theta}{360^\circ}$
 $\frac{\text{Area of sector}}{\pi r^2} = \frac{\theta}{360^\circ}$
- 7 Luas layang = $\frac{1}{2} \times$ hasil darab panjang dua pepenjuru
Area of kite $= \frac{1}{2} \times \text{product of two diagonals}$
- 8 Luas trapezium = $\frac{1}{2} \times$ hasil tambah dua sisi selari $\times$ tinggi
Area of trapezium $= \frac{1}{2} \times \text{sum of two parallel sides} \times \text{height}$
- 9 Luas permukaan silinder $= 2\pi r^2 + 2\pi rh$
Surface area of cylinder $= 2\pi r^2 + 2\pi rh$
- 10 Luas permukaan kon $= \pi r^2 + \pi rs$
Surface area of cone $= \pi r^2 + \pi rs$
- 11 Luas permukaan sfera $= 4\pi r^2$
Surface area of sphere $= 4\pi r^2$
- 12 Isi padu prisma = luas keratan rentas $\times$ tinggi
Volume of prism $= \text{area of cross section} \times \text{height}$
- 13 Isi padu silinder $= \pi r^2 h$
Volume of cylinder $= \pi r^2 h$

- 14 Isi padu kon = $\frac{1}{3}\pi r^2 h$
Volume of cone = $\frac{1}{3}\pi r^2 h$
- 15 Isi padu sfera = $\frac{4}{3}\pi r^3$
Volume of sphere = $\frac{4}{3}\pi r^3$
- 16 Isi padu piramid = $\frac{1}{3} \times \text{luas tapak} \times \text{tinggi}$
Volume of pyramid = $\frac{1}{3} \times \text{base area} \times \text{height}$
- 17 Faktor skala, $k = \frac{PA'}{PA}$
Scale factor, k = $\frac{PA'}{PA}$
- 18 Luas imej = $k^2 \times \text{luas objek}$
Area of image = $k^2 \times \text{area of object}$

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

- 1 Diberi fungsi kuadratik $f(x) = 2x^2 + 3x + c$ melalui titik (1, 3).
Nyatakan nilai c .
*Given quadratic function $f(x) = 2x^2 + 3x + c$ passes through point (1, 3).
State the value of c .*

- A 8
B 2
C -2
D -8

- 2 Permudahkan:
Simplify:

$$\frac{m^{-3} \times m \times n^3 \times n}{\sqrt{m^4 \times n^2}}$$

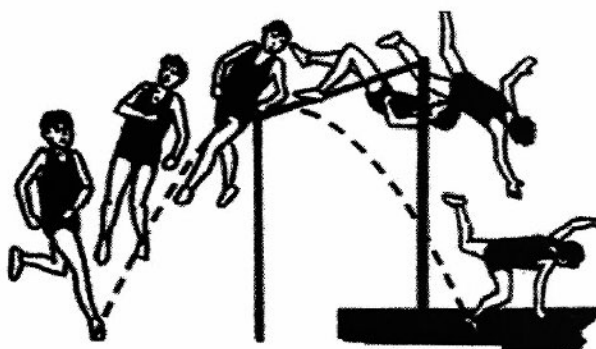
- A n^2
B n^3
C $m^{-1}n^4$
D $m^{-4}n^3$



SERTAI TELEGRAM @exercise_students

- 3 Adam merupakan seorang atlet di SMK Dato' Abdul Rahmat, Tampoi. Semasa Kejohanan Olahraga kali ke-30 di sekolahnya, Adam memenangi acara lompat tinggi. Rajah 1 menunjukkan pergerakan lompatannya yang menghasilkan parabola. Lintasan lompatannya boleh diungkapkan oleh fungsi $f(x) = -0.5x^2 + 2x$.

Adam is an athlete at SMK Dato' Abdul Rahmat, Tampoi. During the school's 30th Track and Field Championship, Adam won the high jump event. Diagram 1 shows the movement of his jump which forms a parabola. The path of the jump can be expressed by the function $f(x) = -0.5x^2 + 2x$.

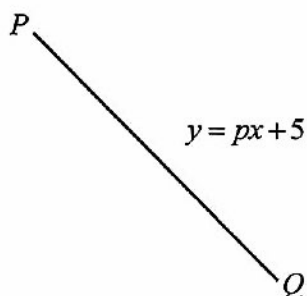


Rajah 1
Diagram 1

Nyatakan ketinggian maksimum yang dicapai oleh Adam semasa lompatannya.
State the maximum height reached by Adam during his jump.

- A 1
- B 2
- C 4
- D 8

- 4 Rajah 2 menunjukkan suatu garis lurus PQ .
Diagram 2 shows a straight line PQ .



Rajah 2
Diagram 2

Antara yang berikut, yang manakah nilai yang mungkin bagi p ?
Which of the following is the possible value of p ?

- A 0
- B $\frac{1}{2}$
- C 1
- D -1
- 5 Antara berikut, yang manakah nombor terbesar dalam asas 7?
Which of the following is the largest number in base 7?
- A 777
- B 667
- C 666
- D 665

- 6 Diberi
Given

$$1045_6 = 1 \times 6^p + q \times 6 + 5 \times 6^0$$

Nyatakan nilai p dan nilai q .
State the value of p and of q .

- A $p = 2, q = 4$
B $p = 3, q = 4$
C $p = 4, q = 4$
D $p = 4, q = 5$

- 7 Antara berikut, yang manakah adalah betul?
Which of the following is correct?

	Situasi <i>Situation</i>	Perwakilan ketaksamaan <i>Inequality representation</i>
A	Suhu air, T , melebihi 40°C <i>The water temperature, T, is more than 40°C</i>	$T < 40$
B	Isi padu air, V , di dalam baldi melebihi 2 liter <i>The volume of water, V, in a pail is more than 2 litres</i>	$V \geq 2$
C	Harga, P , seekor ikan kerapu sekurang-kurangnya RM45 <i>The price, P, of a grouper fish is at least RM45</i>	$P > 45$
D	Had laju, v , di jalan raya tidak boleh melebihi 90 km/j <i>The speed limit, v, on the road must not exceed 90 km/h</i>	$v \leq 90$

- 8 Encik Shazwan ingin membeli insurans kebakaran untuk rumahnya dengan nilai boleh insurans RM365 000. Polisi insurans kebakaran yang ingin dibelinya itu mempunyai peruntukan ko-insurans untuk menginsuranskan 85% daripada nilai boleh insurans hartanya dan deduktibel sebanyak RM2 500. Rumah Encik Shazwan telah mengalami kebakaran dan jumlah kerugiannya adalah sebanyak RM29 000.

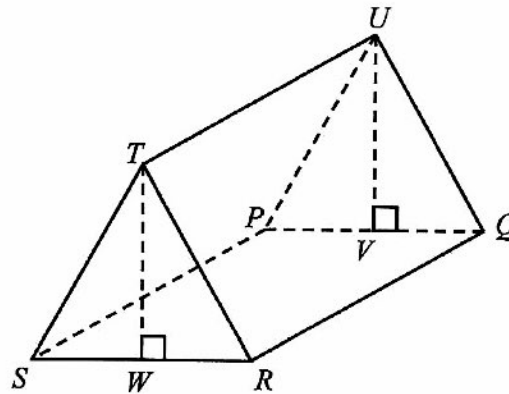
Hitung bayaran pampasan yang akan diterima Encik Shazwan jika dia menginsuranskan rumahnya dengan jumlah RM250 000.

Encik Shazwan wants to purchase fire insurance for his house with an insurable value of RM365 000. The fire insurance policy he wants to buy has a co-insurance provision to insure 85% of its insurable value and a deductible of RM2 500. His house caught on fire and the amount of loss is RM29 000.

Calculate the amount of compensation he will receive if he insures the house for a sum of RM250 000.

- A RM17 363.01
- B RM20 868.25
- C RM23 368.25
- D RM26 500.00

- 9 Rajah 3 menunjukkan sebuah prisma tegak dengan tapak mengufuk $PQRS$.
 Diagram 3 shows a right prism with a horizontal base $PQRS$.



Rajah 3
 Diagram 3

Diberi PQU dan SRT adalah satah menegak.
 Antara berikut, yang manakah adalah normal bagi satah $PQRS$?
 Given PQU and SRT are vertical planes.
 Which of the following is the normal to the plane $PQRS$?

- A TS dan UQ
 TS and UQ
- B PQ dan UV
 PQ and UV
- C TU dan VW
 TU and VW
- D UV dan TW
 UV and TW

- 10 Puan Shanti bekerja sebagai seorang pensyarah dengan gaji bersih bulanan RM8 700. Anggaran perbelanjaan bulanan adalah seperti yang ditunjukkan dalam Jadual 1.
Puan Shanti works as a lecturer with a monthly net salary of RM8 700. Her estimated monthly expenses are as shown in Table 1.

Perbelanjaan bulanan <i>Monthly expenses</i>	RM
Ansuran pinjaman perumahan <i>Housing loan instalment</i>	2 300
Ansuran kereta <i>Car instalment</i>	1 100
Barangan dapur <i>Groceries</i>	700
Bil utiliti <i>Utility bills</i>	440
Petrol dan tol <i>Petrol and toll</i>	600
Melancong <i>Travel</i>	500
Insurans <i>Insurance</i>	380

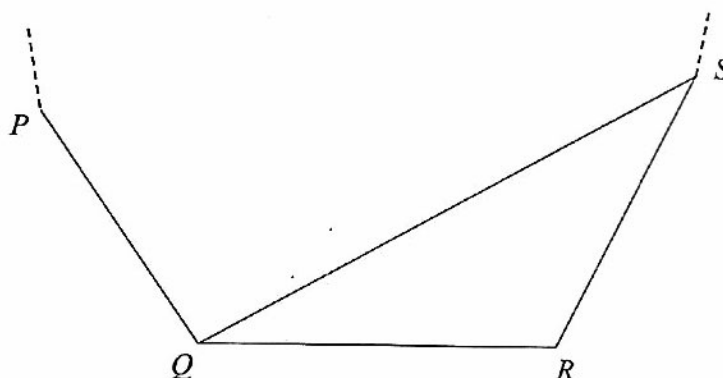
Jadual 1
Table 1

Hitung jumlah perbelanjaan tetap Puan Shanti.
Calculate Puan Shanti's total fixed expenses.

- A RM2 240
- B RM2 620
- C RM3 400
- D RM3 780



- 11 Rumus $C = 4x + 60$ mewakili jumlah kos, dalam RM, bagi membeli x buah buku.
Jika jumlah kos tidak melebihi RM220, berapakah bilangan maksimum buku yang boleh dibeli?
*The formula $C = 4x + 60$ represents the total cost, in RM, of buying x books.
If the total cost does not exceed RM220, what is the maximum number of books that can be bought?*
- A 39
B 40
C 41
D 50
- 12 Rajah 4 menunjukkan poligon sekata yang tidak lengkap.
Diagram 4 shows incomplete regular polygon.



Rajah 4
Diagram 4

Diberi $\angle SQR = 18^\circ$, nyatakan bilangan sisi bagi poligon sekata tersebut.
Given $\angle SQR = 18^\circ$, state the number of sides of the regular polygon.

- A 10
B 11
C 12
D 13

- 13 Encik Deva memenangi hadiah utama berupa wang tunai RM30 000 dalam satu pertandingan. Dia menyimpan 80% daripada wang tersebut di sebuah bank dengan kadar faedah 4% setahun dan faedah dikompaunkan setiap 3 bulan.

Hitung jumlah faedah yang diterima pada akhir tahun ketiga simpanannya.

Encik Deva won a cash grand prize of RM30 000 in a competition. He deposits 80% of this money in a bank with an annual interest rate of 4% and the interest is compounded every 3 months. Calculate the total interest received at the end of the third year of his savings.

- A RM3 038.48
- B RM3 043.80
- C RM3 798.09
- D RM3 804.75

- 14 Puan Aiza memiliki sebuah rumah kediaman di Setia Perdana. Dia menerima bil cukai pintu daripada Majlis Bandaraya Petaling Jaya. Diberi bahawa kadar cukai pintu ialah 5% dan Puan Aiza membayar cukai pintu RM180 untuk setiap setengah tahun.

Hitung anggaran sewa bulanan rumah tersebut.

Puan Aiza owns a residential house in Setia Perdana. She received a property assessment tax bill from Petaling Jaya City Council. Given that the property tax rate is 5% and Puan Aiza pays RM180 in property assessment tax for each half-year.

Calculate the estimated monthly rental of the house.

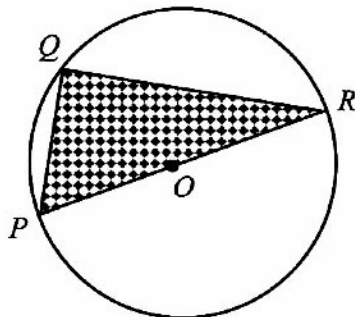
- A RM1 080
- B RM900
- C RM600
- D RM300

- 15 Encik Kay mempunyai jumlah pendapatan tahunan sebanyak RM52 280 pada tahun 2025. Jumlah pelepasan cukai yang hendak dituntut ialah RM18 000. Pada Disember 2025, dia membuat pengiraan anggaran cukai pendapatan bagi tahun tersebut. Jika dia berhasrat untuk meminimumkan bayaran cukainya, kombinasi derma dan zakat manakah yang paling sesuai dilakukan sebelum tahun 2026?
- Encik Kay has a total annual income of RM52 280 in the year 2025. The total tax relief he intends to claim is RM18 000. In December 2025, he calculates the estimated income tax for that year. If he intends to minimize his tax payment, which combination of donation and zakat is the most suitable to be made before the year 2026?*

	Derma Donation (RM)	Zakat Zakat (RM)
A	50	250
B	150	150
C	200	100
D	250	50

- 16 Rajah 5 menunjukkan lukisan berskala bagi sebuah permaidani berbentuk bulat berpusat O , dilukis dengan skala 1 : 6.

Diagram 5 shows a scale drawing of a round shape carpet with centre O , is drawn with the scale of 1 : 6.



Rajah 5
Diagram 5

Segi tiga PQR ialah satu corak pada permaidani. Panjang PQ dan QR masing-masing ialah 15 cm dan 20 cm.

Hitungkan jejari sebenar, dalam cm, bagi permaidani tersebut.

Triangle PQR is a pattern on the carpet. The length of PQ and QR are 15 cm and 20 cm respectively.

Calculate the actual radius, in cm, of the carpet.

- A 75
- B 78
- C 150
- D 156

- 17 Diberi bahawa p berubah secara songsang dengan kuasa tiga q .
Ungkapkan p dalam sebutan q dengan menggunakan k sebagai pemalar.
Given that p varies inversely as the cube of q .
Express p in terms of q by using k as the constant.

A $p = \frac{k}{q}$

B $p = \left(\frac{k}{q}\right)^3$

C $p = \frac{k}{q^3}$

D $p = \frac{k}{\sqrt[3]{q}}$

- 18 Diberi bahawa isipadu, $V \text{ cm}^3$, bagi sebuah silinder berubah secara langsung dengan kuasa dua jejaringnya, $r \text{ cm}$ di mana $V = 83\,160 \text{ cm}^3$ apabila $r = 21 \text{ cm}$.
Hitung isipadu, dalam cm^3 , silinder itu jika jejaringnya berkurang sebanyak 50%.
Given that the volume, $V \text{ cm}^3$, of a cylinder varies directly with the square of its radius, $r \text{ cm}$ where $V = 83\,160 \text{ cm}^3$ when $r = 21 \text{ cm}$.
Calculate the volume, in cm^3 , of the cylinder if its radius is reduced by 50%.

A 1 980

B 3 960

C 20 790

D 27 090

- 19 Diberi bahawa matriks $D = \begin{bmatrix} 1 & 3 & 2 \\ 0 & -1 & 4 \\ 5 & 2 & 7 \end{bmatrix}$, tentukan D_{21} .

It is given that matrix $D = \begin{bmatrix} 1 & 3 & 2 \\ 0 & -1 & 4 \\ 5 & 2 & 7 \end{bmatrix}$, determine D_{21} .

- A -1
- B 0
- C 2
- D 4

- 20 Diberi bahawa penentu kepada matriks $\begin{bmatrix} a & 10 \\ 11 & 10 \end{bmatrix}$ ialah 30.

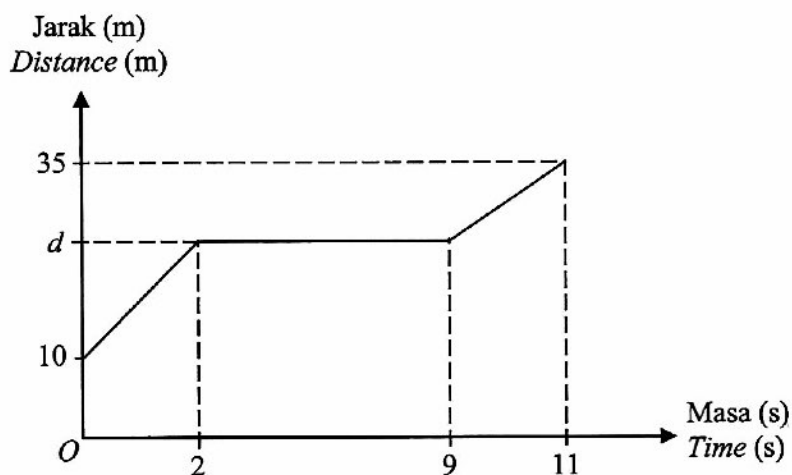
Cari nilai a .

Given that the determinant of matrix $\begin{bmatrix} a & 10 \\ 11 & 10 \end{bmatrix}$ is 30.

Find the value of a .

- A -8
- B 8
- C 13
- D 14

- 21 Rajah 6 menunjukkan graf jarak-masa bagi gerakan suatu zarah dalam tempoh 11 saat.
Diagram 6 shows the distance-time graph for the motion of a particle for a period of 11 seconds.

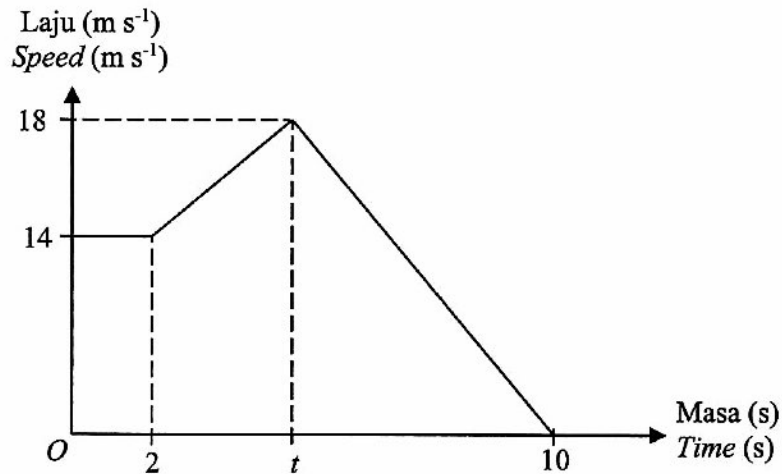


Rajah 6
Diagram 6

Diberi laju zarah dalam tempoh 2 saat yang pertama ialah 450 m/min, hitung nilai d .
Given the speed of the particle in the first 2 seconds is 450 m/min, calculate the value of d .

- A 15
- B 22.5
- C 25
- D 30

- 22 Rajah 7 menunjukkan graf laju-masa bagi pergerakan zarah E dalam tempoh 10 saat.
Diagram 7 shows the speed-time graph for the movement of particle E for a period of 10 seconds.



Rajah 7
Diagram 7

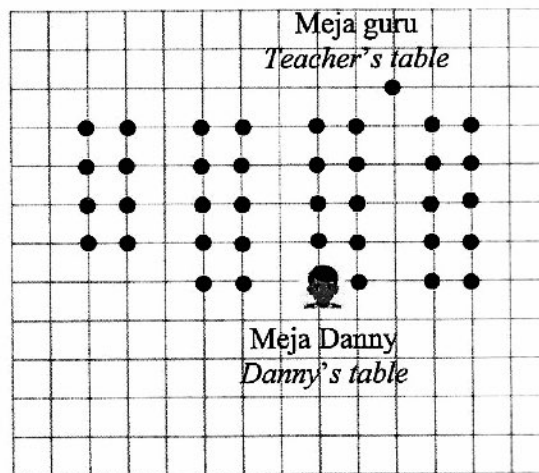
Diberi bahawa jarak yang dilalui oleh zarah E dalam tempoh 8 saat terakhir ialah 100 m.
Hitung nilai t .

*Given that the distance travelled by particle E in the last 8 seconds is 100 m.
Calculate the value of t .*

- A 6
- B 7
- C 8
- D 9

- 23 Rajah 8 menunjukkan kedudukan meja guru dan meja murid di dalam kelas 4A. Diberi bahawa koordinat meja Danny ialah (8, 1) pada awal tahun.

Diagram 8 shows the positions of the teacher's table and students' tables in class 4A. Given the coordinates of Danny's table are (8, 1) at the beginning of the year.



Rajah 8
Diagram 8

Seminggu kemudian, disebabkan masalah penglihatan Danny, guru kelas 4A, Cikgu Hadi, menukarkan kedudukan Danny di bawah translasi $\begin{pmatrix} -3 \\ 4 \end{pmatrix}$.

Tentukan koordinat bagi kedudukan baharu Danny.

A week later, due to Danny's poor eyesight, his class teacher of 4A, Cikgu Hadi, changed his seat under a translation of $\begin{pmatrix} -3 \\ 4 \end{pmatrix}$.

Determine the coordinates of Danny's new position.

- A (4, 4)
- B (5, 5)
- C (11, 5)
- D (12, 4)

24 Transformasi **P** dan **Q** ditakrifkan seperti berikut:

P ialah satu pantulan pada paksi- y .

Q ialah satu pantulan pada garis $y = -1$.

Cari satu transformasi tunggal yang setara dengan gabungan transformasi **PQ**.

*The transformation **P** and **Q** are defined as follows:*

***P** is a reflection in the y -axis.*

***Q** is a reflection in the line $y = -1$.*

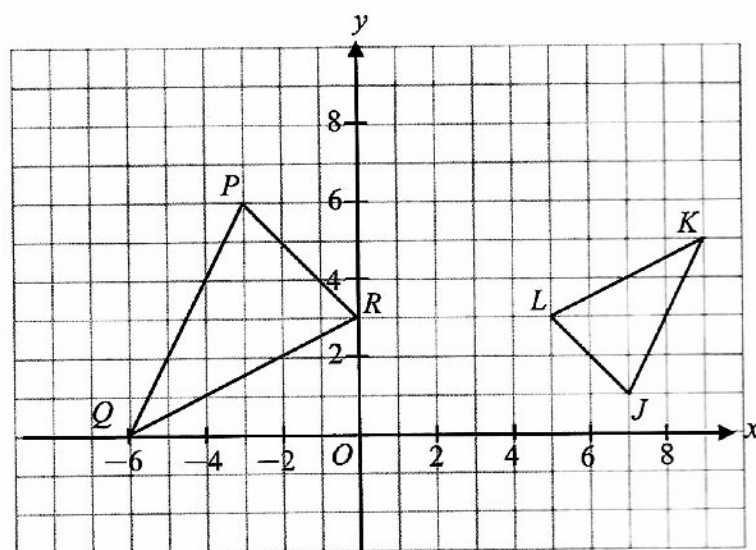
*Find a single transformation which is equivalent to the combined transformation **PQ**.*

- A Pantulan pada garis lurus $y = x$
Reflection in the straight line $y = x$
- B Pantulan pada garis lurus $y = x + 1$
Reflection in the straight line $y = x + 1$
- C Putaran 180° pada pusat $(-1, 0)$
Rotation of 180° at the centre $(-1, 0)$
- D Putaran 180° pada pusat $(0, -1)$
Rotation of 180° at the centre $(0, -1)$



SERTAI TELEGRAM @exercise_students

- 25 Rajah 9 menunjukkan segi tiga PQR dan JKL yang dilukis pada satah Cartes.
Diagram 9 shows triangles PQR and JKL drawn on a Cartesian plane.



Rajah 9
Diagram 9

Segi tiga PQR ialah objek bagi segi tiga JKL di bawah suatu pembesaran. Perbezaan luas antara segi tiga PQR dan JKL ialah 25 unit².

Cari luas, dalam unit², bagi segi tiga JKL .

Triangle PQR is the object of triangle JKL under an enlargement. The difference in area between triangles PQR and JKL is 25 unit².

Find the area, in unit², of triangle JKL .

- A 20
- B 45
- C 50
- D 75

- 26 Antara berikut, yang manakah merupakan satu pernyataan?
Which of the following is a statement?

- A Tolong ambil buku ini
Please take that book
- B $2x + 8 = 10$
- C $2y - 3 - 6y$
- D 1 m bersamaan dengan 100 cm
1 m is equal to 100 cm

- 27 Rajah 10 menunjukkan songsangan bagi suatu implikasi.
Diagram 10 shows an inverse of implication.

Jika 7 bukan nombor perdana, maka 7 tidak mempunyai dua faktor.
If 7 is not a prime number, then 7 does not have two factors.

Rajah 10
Diagram 10

Antara berikut, yang manakah adalah akas bagi implikasi tersebut?
Which of the following is a converse of the implication?

- A Jika 7 mempunyai dua faktor, maka 7 ialah nombor perdana.
If 7 has two factors, then 7 is a prime number.
- B Jika 7 ialah nombor perdana, maka 7 mempunyai dua faktor.
If 7 is a prime number, then 7 has two factors.
- C Jika 7 tidak mempunyai dua faktor, maka 7 bukan nombor perdana.
If 7 does not have two factors, then 7 is not a prime number.
- D Jika 7 bukan nombor perdana, maka 7 mempunyai dua faktor.
If 7 is not a prime number, then 7 has two factors.

- 28 Diberi bahawa set semesta, $\xi = \{x : 20 \leq x \leq 30\}$, set $A = \{x : x \text{ nombor gandaan } 4\}$, set $B = \{x : x \text{ nombor genap}\}$ dan set $C = \{x : x \text{ nombor gandaan } 5\}$.
Senaraikan semua unsur bagi $(B \cap C) \cup A$.

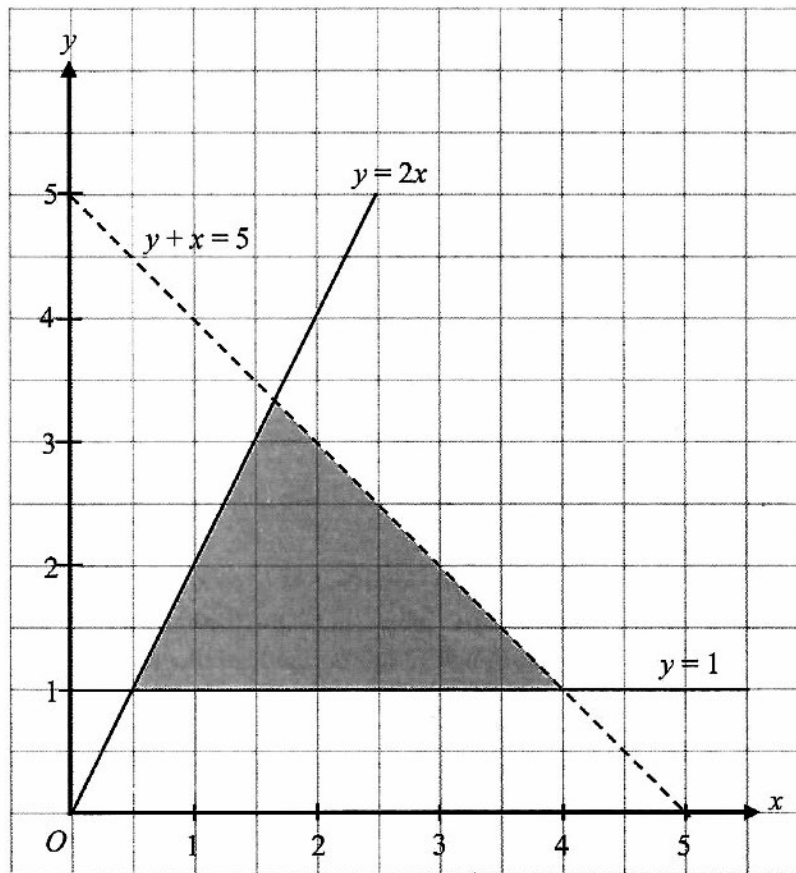
*Given that the universal set, $\xi = \{x : 20 \leq x \leq 30\}$, set $A = \{x : x \text{ is a multiple of } 4\}$, set $B = \{x : x \text{ is an even number}\}$ and set $C = \{x : x \text{ is a multiple of } 5\}$.
List all the elements of $(B \cap C) \cup A$.*

- A {20, 24, 25 30}
B {20, 24, 28, 30}
C {20, 22, 24, 26, 28, 30}
D {21, 22, 23, 24, 25, 26, 27, 28, 29}

- 29 Seramai 80 orang peserta telah menghadiri sebuah bengkel teknik menjawab. Daripada jumlah peserta, 55 orang lulus mata pelajaran Sejarah manakala 57 orang lulus mata pelajaran Geografi. Terdapat 10 orang peserta gagal kedua-dua mata pelajaran tersebut.
Hitung bilangan peserta yang lulus dalam satu mata pelajaran sahaja.
*A total of 80 participants attended an answering technique workshop. From the total participants, 55 participants passed History subject while 57 participants passed Geography subject. There are 10 participants who fail both subjects.
Calculate the number of participants who passed only one subject.*

- A 13
B 15
C 28
D 42

- 30 Rajah 11 menunjukkan rantau berlorek yang memuaskan sistem ketaksamaan linear.
Diagram 11 shows a shaded region that satisfies the system of linear inequalities.



Rajah 11
Diagram 11

Tentukan semua ketaksamaan linear yang memuaskan rantau berlorek yang diberikan.
Determine all the linear inequalities that satisfy the shaded region given.

- A $y + x \geq 5$, $y < 2x$ dan $y \geq 1$
 $y + x \geq 5$, $y < 2x$ and $y \geq 1$
- B $y + x < 5$, $y \geq 2x$ dan $y \geq 1$
 $y + x < 5$, $y \geq 2x$ and $y \geq 1$
- C $y + x \leq 5$, $y < 2x$ dan $y \geq 1$
 $y + x \leq 5$, $y < 2x$ and $y \geq 1$
- D $y + x < 5$, $y \leq 2x$ dan $y \geq 1$
 $y + x < 5$, $y \leq 2x$ and $y \geq 1$

- 31 Antara berikut, bilangan darjah yang manakah boleh digunakan untuk melukis suatu graf mudah?
Which of the following degrees of vertices can be used to draw a simple graph?

A 3, 2, 1, 4, 2, 1
B 2, 3, 4, 3, 1
C 1, 2, 3, 3, 1
D 1, 3, 2, 3

- 32 Jika min bagi 6 nombor ialah 10, berapakah hasil tambah semua nombor tersebut?
If the mean of 6 numbers is 10, what is the sum of all the numbers?

A 16
B 60
C 70
D 80

- 33 Cari julat antara kuartil bagi data berikut:
Find the interquartile range of the following data:

12, 6, 8, 4, 10, 2

- A 4
B 6
C 8
D 10

- 34 Sebuah syarikat menghasilkan dua jenis sos tomato, iaitu produk *X* dan produk *Y*. Jadual 2 menunjukkan varians bagi produk *X* dan produk *Y*.
A company produces two types of tomato sauce, namely product X and product Y. Table 2 shows the variance for product X and product Y.

Produk Product	<i>X</i>	<i>Y</i>
Varians Variance	1.21	1.69

Jadual 2
Table 2

Produk yang lebih berkualiti ialah
A better-quality product is

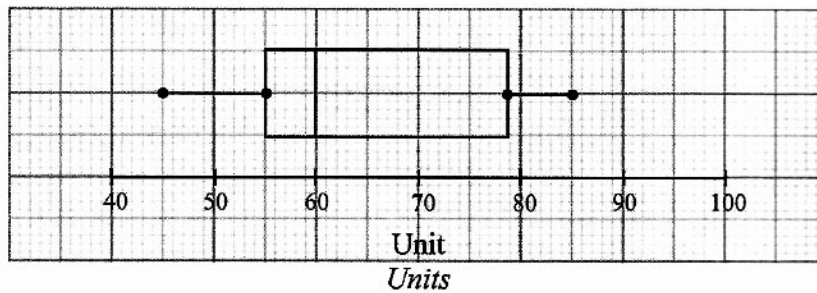
- A produk *X* kerana mempunyai sisihan piawai yang lebih kecil.
product X because it has a smaller standard deviation.
- B produk *X* kerana mempunyai sisihan piawai yang lebih besar.
product X because it has a larger standard deviation.
- C produk *Y* kerana mempunyai sisihan piawai yang lebih kecil.
product Y because it has a smaller standard deviation.
- D produk *Y* kerana mempunyai sisihan piawai yang lebih besar.
product Y because it has a larger standard deviation.

- 35 Plot kotak di bawah menunjukkan jualan bilangan kotak susu jenama A, B, C dan D. Merujuk kepada median dan julat antara kuartil, plot kotak yang manakah mewakili prestasi jualan yang terbaik?

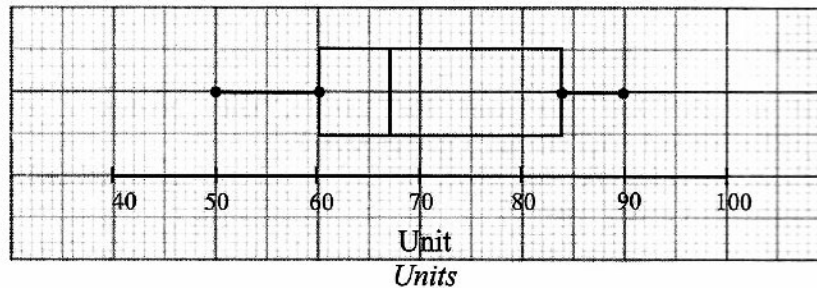
The box plot below shows the sales of boxes of milk brand A, B, C and D.

Based on median and interquartile range, which of the following box plot represent the best sales performance?

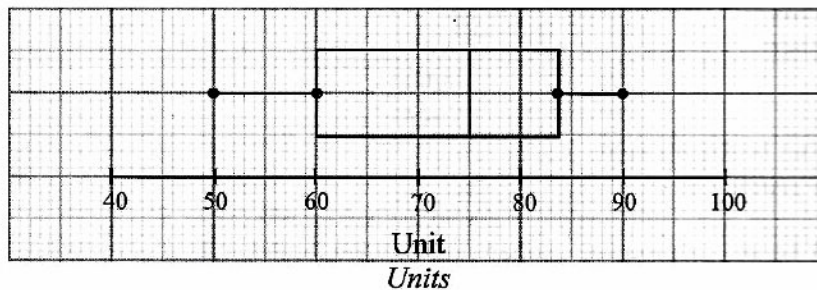
A



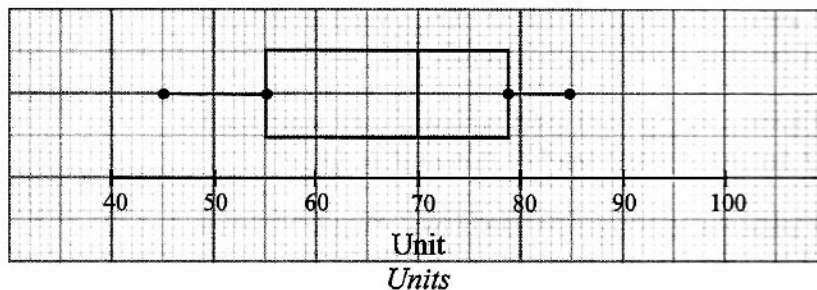
B



C



D



- 36 Seorang pengawas perpustakaan dipilih secara rawak daripada 15 orang murid perempuan dan 25 orang murid lelaki.

Hitung kebarangkalian bahawa seorang murid perempuan dipilih.

A librarian is chosen at random from 15 female pupils and 25 male pupils.

Calculate the probability that a female pupil is selected.

A $\frac{1}{4}$

B $\frac{3}{8}$

C $\frac{3}{5}$

D $\frac{5}{8}$



- 37 Zafran dan Nazmi telah menghadiri pemilihan pemain bola sepak sekolah. Kebarangkalian Zafran terpilih adalah $\frac{3}{5}$ manakala kebarangkalian Nazmi terpilih pula adalah $\frac{3}{7}$.

Hitung kebarangkalian bahawa hanya seorang daripada mereka yang terpilih sebagai pemain bola sepak sekolah.

Zafran and Nazmi attended the school football player selection. The probability that Zafran is selected is $\frac{3}{5}$ while the probability that Nazmi is selected is $\frac{3}{7}$.

Calculate the probability that only one of them is selected as the school football player.

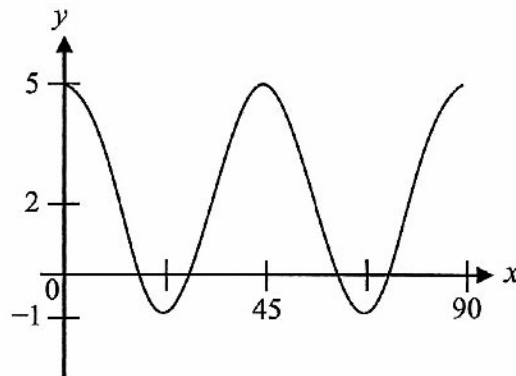
A $\frac{6}{35}$

B $\frac{9}{35}$

C $\frac{12}{35}$

D $\frac{18}{35}$

- 40 Rajah 12 menunjukkan graf fungsi trigonometri $y = a \cos bx + c$.
Diagram 12 shows the graph of the trigonometric function $y = a \cos bx + c$.



Rajah 12
Diagram 12

Apakah persamaan yang mewakili graf fungsi trigonometri tersebut?
What is the equation that represents the graph of the trigonometric function?

- A $y = 3 \cos 8x + 2$
 $y = 3 \cos 8x + 2$
- B $y = 3 \cos 2x + 2$
 $y = 3 \cos 2x + 2$
- C $y = 5 \cos 2x + 1$
 $y = 5 \cos 2x + 1$
- D $y = 2 \cos 8x + 5$
 $y = 2 \cos 8x + 5$



KERTAS PEPERIKSAAN TAMAT