

SULIT

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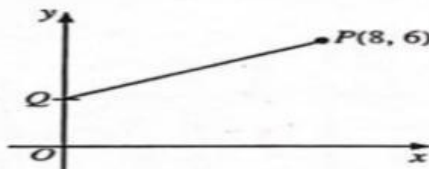
Jawab semua soalan.

- 1 Diberi bahawa $0.00086 = p \times 10^q$ dengan keadaan $p \times 10^q$ ialah suatu nombor dalam bentuk piawai.
Nyatakan nilai p dan nilai q .
It is given that $0.00086 = p \times 10^q$ such that $p \times 10^q$ is a number in the standard form.
State the value of p and of q .
- A $p = 8.6, q = 4$
B $p = 8.6, q = -4$
C $p = 86, q = 5$
D $p = 86, q = -5$

- 2 Faktorkan:
Factorise:
- $$-2x^2 + 11x - 5$$
- A $(-x + 1)(2x - 5)$
B $(-x - 1)(2x + 5)$
C $(-2x - 1)(x + 5)$
D $(-2x + 1)(x - 5)$

- 3 Nyatakan nilai dalam asas sepuluh bagi digit yang bergaris, dalam nombor $101\underline{1}01_2$.
State the value in base ten for the underlined digit, in number $101\underline{1}01_2$.
- A 1
B 2
C 4
D 8

- 4 Rajah 1 menunjukkan garis lurus PQ dilukis pada satu satah Cartes.
Diagram 1 shows a straight line PQ drawn on a Cartesian plane.

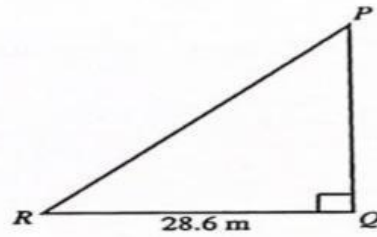


Rajah 1
Diagram 1

Diberi bahawa jarak OQ ialah 4 unit.
Cari kecerunan PQ .
It is given that the distance of OQ is 4 units.
Find the gradient of PQ .

- A -4
B $-\frac{1}{4}$
C $\frac{1}{4}$
D 4

- 6 Rajah 3 menunjukkan pelan sebuah taman berbentuk segi tiga bersudut tegak PQR .
Diagram 3 shows a plan of park in a shaped of right angled triangle PQR .



Rajah 3
Diagram 3

Diberi bahawa luas taman PQR ialah $4.2 \times 10^3 \text{ m}^2$.

Hitung panjang PQ , dalam m.

It is given that the area of park PQR is $4.2 \times 10^3 \text{ m}^2$.

Calculate the length of PQ , in m.

- A 1.47×10
- B 1.47×10^2
- C 2.94×10
- D 2.94×10^2

- 8 Bundarkan 90456 kepada tiga angka bererti.

Round off 90456 correct to three significant figures.

- A 90400
- B 90450
- C 90460
- D 90500

- 9 Ringkaskan:

Simplify:

$$(x^2)^4 \times x^{-3}$$

- A x^5
- B x^3
- C x^{-18}
- D x^{-24}

- 10 Ungkapkan $\frac{5}{3n} - \frac{n-6}{6n^2}$ sebagai satu pecahan tunggal dalam bentuk termudah.

Express $\frac{5}{3n} - \frac{n-6}{6n^2}$ as a single fraction in its simplest form.

- A $\frac{3n-6}{2n^2}$
- B $\frac{3n+2}{2n^2}$
- C $\frac{2n-3}{3n^2}$
- D $\frac{2n+1}{3n^2}$

- 14 Diberi bahawa $\frac{4k}{6} + 7 = \frac{k}{12}$, cari nilai k .

Given that $\frac{4k}{6} + 7 = \frac{k}{12}$, find the value of k .

- A 12
B $9\frac{1}{3}$
C $-9\frac{1}{3}$
D -12
- 15 Rajah 7 menunjukkan suatu set data.
Diagram 7 shows a set of data.

$x, x+2, x, x+4, x+3, x+3, x+2$

Rajah 7
Diagram 7

Diberi bahawa jumlah hasil tambah data tersebut ialah 63, cari nilai bagi median.
Given that the sum of the data is 63, find the value of median.

- A 7
B 9
C 10
D 11

17 Diberi bahawa $\frac{3km-1}{m+2} = \frac{k}{2}$, ungkapkan k dalam sebutan m .

Given that $\frac{3km-1}{m+2} = \frac{k}{2}$, express k in terms of m .

A $k = \frac{3}{5m}$

B $k = \frac{3}{2m}$

C $k = \frac{2}{5m-1}$

D $k = \frac{2}{5m-2}$

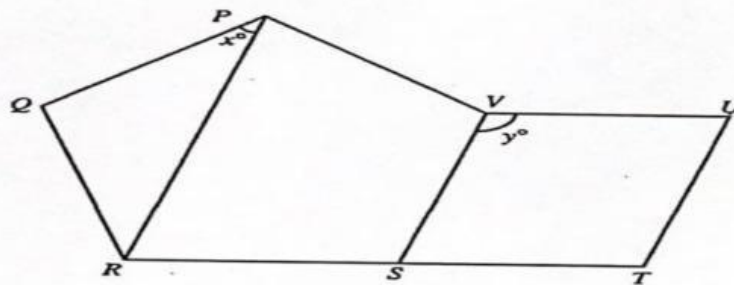
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18 Rajah 8 ialah pentagon sekata $PQRSV$ dan rombus $STUV$. RST ialah garis lurus.

Diagram 8 shows a regular pentagon $PQRSV$ and a rhombus $STUV$. RST is a straight line.



Rajah 8
Diagram 8

Hitung nilai $x + y$.

Calculate the value of $x + y$.

- A 108
- B 144
- C 156
- D 180

- 20 Diberi bahawa y berubah secara langsung dengan kuasa dua x apabila $y = 8$ dan $x = 4$.
Ungkapkan y dalam sebutan x .

It is given that y varies directly as the square of x when $y = 8$ and $x = 4$.

Express y in terms of x .

A $y = \frac{1}{4}\sqrt{x}$

B $y = \frac{1}{2}x^2$

C $y = 2x^2$

D $y = 4\sqrt{x}$

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- 21 Antara berikut yang manakah betul?

Which of the following is correct?

- A Deduktibel ialah jumlah yang ditanggung oleh pemegang polisi selepas layak membuat tuntutan daripada syarikat insurans

Deductible is an amount that is borne by the policyholder after they can make a claim from the insurance company

- B Penalti ko-insurans ialah jumlah yang ditanggung oleh syarikat insurans atas kerugian separa yang dialami akibat tidak memenuhi tuntutan ko-insurans

Co-insurance penalty is an amount that is borne by the insurance company on the partial loss incurred due to an unfulfilled co-insurance claim

- C Ko-insurans ialah perkongsian kos dengan keadaan pemegang polisi menanggung peratusan tertentu daripada kerugian bersama dengan syarikat insurans

Co-insurance is the cost sharing where the policyholder bears a certain percentage of loss together with the insurance company

- D Premium ialah jumlah pampasan yang dibayar oleh syarikat insurans kepada pemegang polisi

Premium is an amount of compensation paid by the insurance company to the policyholder

- 22 Pada bulan Mei 2023, Sally menerima jumlah pendapatan sebanyak RM5 500. Perbelanjaan tetap dan perbelanjaan tidak tetap bulanan masing-masing ialah RM3 780 dan RM y . Pada hujung bulan, Sally mempunyai aliran tunai negatif sebanyak RM690. Hitung nilai y .

In May 2023, Sally received a total income of RM5 500. The fixed expenses and variable expenses are RM3 780 and RM y respectively. At the end of the month, Sally had a negative cash flow of RM690.

Calculate the value of y .

A RM1 030

B RM2 410

C RM4 810

D RM6 190

- 24 Razif membeli sebuah van bernilai RM108 000 secara kredit. Bank mengenakan kadar faedah 3% setahun. Dia membuat bayaran pendahuluan sebanyak 10% dan tempoh bayaran balik ialah selama 9 tahun.

Hitung ansuran bulanan yang perlu dibayar oleh Razif.

Razif bought a van worth RM108 000 on credit. The bank imposes an interest rate of 3% per annum. He pays 10% down payment and the repayment period is 9 years.

Calculate the monthly instalment to be paid by Razif.

- A RM 1 143
- B RM 1 170
- C RM 1 243
- D RM 1 270

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- 25 Rajah 11 menunjukkan satu pernyataan.

Diagram 11 shows a statement.

Rani hendak mengumpul RM10000 dalam tempoh 2 tahun untuk membeli sebuah motosikal.

Rani wants to save up RM10000 in 2 years to buy a motorcycle.

Rajah 11
Diagram 11

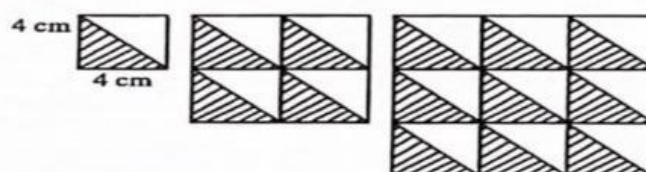
Antara proses pengurusan kewangan berikut, yang manakah menerangkan pernyataan tersebut?

Which of the following financial management processes explains the statement?

- A Mewujudkan pelan kewangan
Creating financial plan
- B Menetapkan matlamat kewangan
Setting financial goal
- C Melaksanakan pelan kewangan
Carrying out financial plan
- D Menilai kedudukan kewangan
Evaluating financial status

- 26 Rajah 12 menunjukkan tiga corak pertama bagi satu jujukan.

Diagram 12 shows the first three patterns of a sequence.



Rajah 12
Diagram 12

Hitung luas kawasan berlorek, dalam cm^2 , bagi jujukan ke-8.

Calculate the area of the shaded region, in cm^2 , for the 8th sequence.

- A 128
B 144
C 512
D 968
- 27 PQ dan RS adalah dua garis selari yang berada pada satu satah Cartes. Diberi bahawa persamaan garis lurus PQ ialah $3y + 2x = 9$ dan $S(6, -5)$.
Tentukan pintasan- y bagi garis lurus RS .
 PQ and RS are two parallel lines that lie on a Cartesian plane. It is given that the equation of straight line PQ is $3y + 2x = 9$ and $S(6, -5)$.
Determine y -intercept for the straight line RS .
- A 7
B 4
C -1
D -9

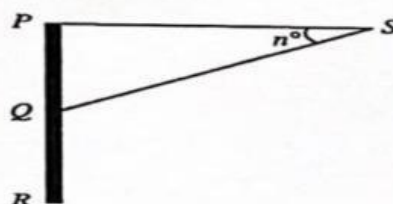
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- 31 Rajah 15 menunjukkan sebatang tiang tegak PR . PS ialah papan mengufuk. Seutas tali diikat tegang dari S ke Q .

Diagram 15 shows a vertical pole PR . PS is a horizontal board. A string is tied tightly from S to Q .



Rajah 15
Diagram 15

Diberi bahawa $PR = 60$ cm, $PS = 40$ cm dan $PQ = QR$.

Hitung nilai $\sin n$.

It is given that $PR = 60$ cm, $PS = 40$ cm and $PQ = QR$.

Calculate the value of $\sin n$.

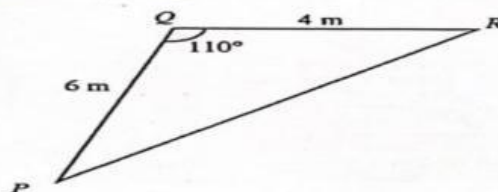
- A $\frac{3}{5}$
B $\frac{3}{4}$
C $\frac{4}{5}$
D $\frac{4}{3}$

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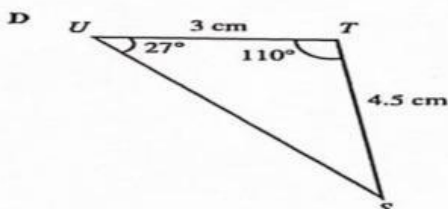
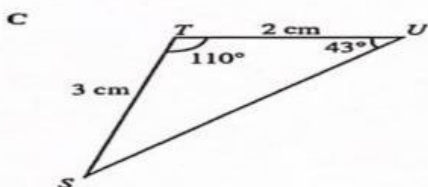
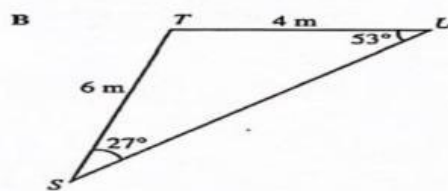
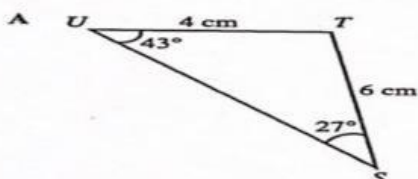
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- 34 Rajah 17 menunjukkan segi tiga PQR .
Diagram 17 shows a triangle PQR .



Rajah 17
Diagram 17

Segi tiga manakah yang kongruen dengan segi tiga PQR ?
Which triangle is congruent to triangle PQR ?

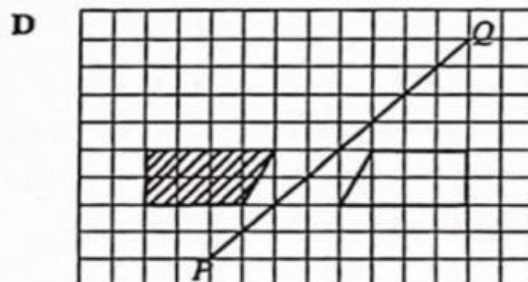
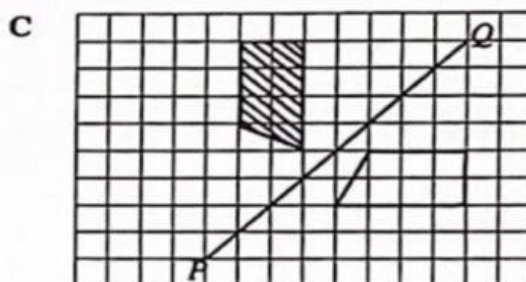
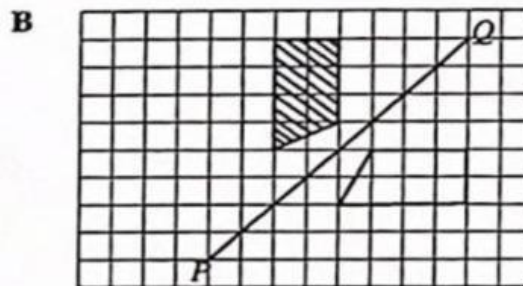
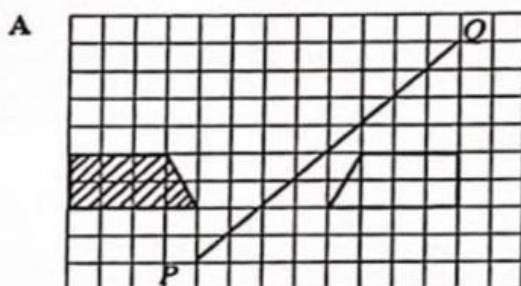


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- 37 Antara rajah berikut, yang manakah menunjukkan satu pantulan pada garis PQ ?
Which of the following diagrams shows a reflection in the line PQ ?



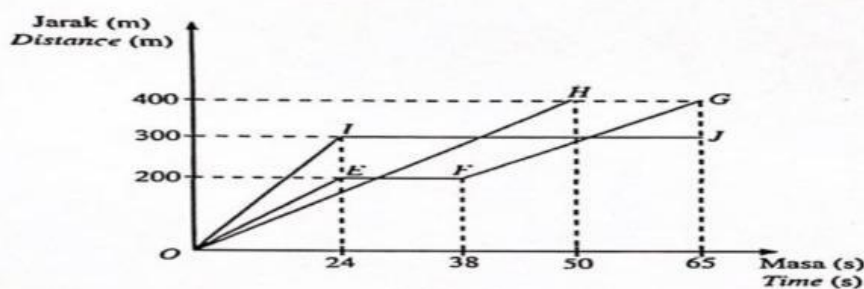
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38 Rajah 19 menunjukkan graf jarak-masa bagi Am, Ben dan Chan dalam acara larian 400 m.

Diagram 19 shows the distance-time graph of Am, Ben and Chan in a 400 m run event.



Rajah 19
Diagram 19

Petunjuk:

Legend:

OIJ - Larian Am / Am's run

OH - Larian Ben / Ben's run

OEFG - Larian Chan / Chan's run

Antara berikut, yang manakah betul?

Which of the following is correct?

	Pelari Runner	Laju purata (ms ⁻¹) Average speed (ms ⁻¹)
A	Am	4.62
B	Ben	6.15
C	Chan	8.00
D	Ben	8.00

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39 Diberi bahawa $G = \begin{pmatrix} -1 & 9 & 0 \\ 6 & 8 & 4 \\ -5 & -3 & 2 \end{pmatrix}$ dan $H = \begin{pmatrix} 6 & 2 \\ -5 & -3 \\ 4 & -1 \end{pmatrix}$.

Hitung nilai $g_{32} + h_{12}$.

He is given that $G = \begin{pmatrix} -1 & 9 & 0 \\ 6 & 8 & 4 \\ -5 & -3 & 2 \end{pmatrix}$ and $H = \begin{pmatrix} 6 & 2 \\ -5 & -3 \\ 4 & -1 \end{pmatrix}$.

Calculate the value of $g_{32} + h_{12}$.

- A -9
B -8
C -2
D -1

HIMPUNAN SOALAN UJIAN TING 4/SPM

- 1 Antara berikut, yang manakah pernyataan benar?
Which of the following statements is true?
 - A Jika 5 ialah nombor negatif, maka 5^3 ialah nombor negatif.
If 5 is a negative number, then 5^3 is a negative number.
 - B Semua gandaan 3 boleh dibahagi tepat dengan 9.
All multiples of 3 are exactly divisible by 9.
 - C Sebilangan nombor ganjil boleh dibahagi tepat dengan nombor genap.
An odd number is exactly divisible by an even number.
 - D 10 dan 18 ialah faktor bagi 60.
10 and 18 are factors of 60.

- 2 Antara berikut, yang manakah ialah suatu pernyataan?
Which of the following is a statement?

A $4 + 9$	C $x - 6 = 10$
B $x^2 + 5x - 4$	D $8^2 = 64$

- 3 Antara pernyataan majmuk berikut, yang manakah benar?
Which of the following compound statements is true?
 - A 2 dan 9 ialah faktor bagi 45.
2 and 9 are factors of 45.
 - B 25 dan 42 ialah gandaan 7.
25 and 42 are multiples of 7.
 - C 64 ialah kuasa dua sempurna dan kuasa tiga sempurna.
64 is a perfect square and a perfect cube.
 - D $4x + 6$ ialah ungkapan dan persamaan linear.
 $4x + 6$ is a linear expression and equation.

II. Kertas 2 : Bahagian A

- 1 (a) Lengkapkan pernyataan menggunakan pengkuantiti "semua" atau "sebilangan" untuk menjadikannya pernyataan yang benar.
_____ nombor perdana tidak boleh dibahagi tepat dengan 2.
Complete the statement using the quantifier "all" or "some" to make it a true statement.
_____ prime numbers are not exactly divisible by 2.
[1 markah/mark]

 - (b) Buat satu kesimpulan umum secara induktif bagi urutan nombor 14, 24, 44, ... yang mengikut pola berikut:
Make a general inductive conclusion for the sequence of numbers 14, 24, 44, ... which follows the following pattern:

$$\begin{array}{rcl} 14 & = & 5(2)^1 + 4 \\ 24 & = & 5(2)^2 + 4 \\ 44 & = & 5(2)^3 + 4 \\ & \vdots & \end{array}$$

[2 markah/marks]

 - (c) Tulis dua implikasi berdasarkan pernyataan berikut " $p - q > 0$ jika dan hanya jika $p > q$ "
Write two implications based on the following statement " $p - q > 0$ if and only if $p > q$ "
[2 markah/marks]
- Jawapan/Answer :
- (a)

 - (b)

 - (c) Implikasi/Implication 1:
Implikasi/Implication 2: