1. Empat sebutan pertama bagi suatu jujukan ialah 11, m, -3, -10, ...

   Hitung nilai m.

   The first four terms for a sequence are 11, m, -3, -10, ...

   Calculate the value of m.

   A 2

   B 3

   C 4

   D 5

2. Diberi bahawa $rs - s^2 = r - 5$. Ungkapkan r dalam sebutan s.

   It is given that $rs - s^2 = r - 5$. *Express* r *in terms of* s.

   A $r = \frac{s^2-5}{s+1}$

   B $r = \frac{s^2-5}{s-1}$

   C $r = s + 5$

   D $r = s - 5$

3. Diberi bahawa $\frac{1}{1-y} = \frac{7}{2y+5}$. Cari nilai y.

   It is given that $\frac{1}{1-y} = \frac{7}{2y+5}$. *Find the value of* y.

   A $\frac{2}{5}$

   B $\frac{2}{9}$

   C $\frac{12}{5}$

   D $\frac{12}{9}$

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4. Suhana membuat sebiji kek lapis yang berjisim tidak lebih daripada 1.5 kg. Jisim kek, x kg, yang diterima oleh setiap jiran jika Suhana memotong kek itu kepada 10 keping secara sama rata untuk jirannya. Antara ketaksamaan linear berikut, yang manakah paling tepat mewakili situasi tersebut?

Suhana bakes a layer cake that has a mass of not more than 1.5 kg. The mass of the cake, x kg, is received by each neighbour, if Suhana cuts the cake into 10 equal slices for her neighbours. Which of the following linear inequalities is the the most accurate to represent the situation?

A $x < \frac{3}{20}$

B $x > \frac{3}{20}$

C $x \leq \frac{3}{20}$

D $x \geq \frac{3}{20}$

5. Alias telah memotong sebatang kayu yang panjangnya y cm kepada tiga bahagian. Panjang bahagian pertama dan kedua masing-masing ialah x cm dan $3x$ cm. Jika $x = 7$ dan panjang bahagian kedua adalah tujuh kali panjang bahagian ketiga, hitung nilai y.

Alias has cut a piece of wood y cm long into three parts. The lenghts of the first and second sides are x cm and $3x$ cm respectively. If $x = 7$ and the length of the second part is seven times the length of the third part, calculate the value of y.

A 28

B 31

C 33

D 77

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6. Permudahkan :

Simplify :

$$\frac{h^2-k^2}{10h-5k} \div \frac{(h-k)^2}{8h-4k} =$$

A $\frac{4(h+k)}{5(h-k)}$

B $\frac{4(h-k)}{5(h+k)}$

C $\frac{5(h+k)}{4(h-k)}$

D $\frac{5(h-k)}{4(h+k)}$

7. Amni, Tasnim dan Izzah berjoging di sebuah trek mengelilingi tasik yang mempunyai jarak satu kilometer untuk setiap satu pusingan. Jadual 1 menunjukkan masa yang diambil untuk satu pusingan.

Amni, Tasnim and Izzah jog on a track around the lake that has a distance of one kilometer for each lap. Table 1 shows the time taken for one round.

Amni	5 minit / *minutes*
Tasnim	6 minit / *minutes*
Izzah	10 minit / *minutes*

Jadual 1/ *Table 1*

Mereka mula berjogging dari tempat yang sama pada pukul 8.00 pagi. Pada pukul berapakah mereka bertiga akan bertemu semula untuk kali pertama?

They started jogging from the same place at 8.00 a.m. What time will the three of them meet again for the first time?

A 8.28 pagi / *a.m*

B 8.30 pagi / *a.m*

C 8.33 pagi / *a.m*

D 8.50 pagi / *a.m*

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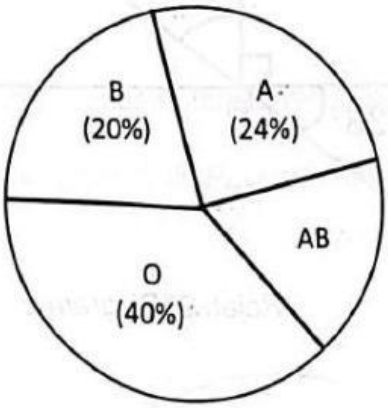
8. Carta pai dalam Rajah 1 menunjukkan peratus penderma darah mengikut kumpulan darah yang didermakan oleh 50 orang penderma dalam masa tiga jam yang pertama. Peratus bagi darah AB tidak ditunjukkan.

The pie chart in Diagram 1 shows the percentage of donors by blood group donated by 50 donors in the first three hours. The percentage for blood AB is not shown.



Rajah 1 / *Diagram 1*

Hitung bilangan penderma bagi darah AB.

Calculate the number of donors for blood AB.

A 16

B 12

C 8

D 4

9. Tukarkan 3322_5 kepada nombor dalam asas 7.

Convert 3322_5 to a number in base 7.

A 462

B 552

C 1132

D 1230

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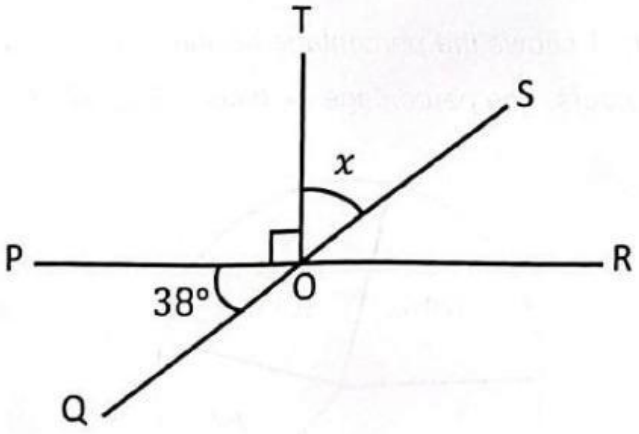
10. Dalam Rajah 2 di bawah, POR dan QOS ialah garis lurus.

In Diagram 2 below, POR and QOS are straight lines.



Rajah 2/ *Diagram 2*

Hitung sudut konjugat bagi x.

Caclculate the conjugate angle of x.

A 38°

B 52°

C 128°

D 308°

11. Kebarangkalian Zakry membidik panah dengan tepat ialah 75%. Dalam masa satu minit, Zakry mampu membuat 4 bidikan. Hitung bidikan tidak tepat yang dilakukan Zakry dalam masa satu jam.

Zakry's probability of aiming the arrow accurately is 75%. Within one minute, Zakry was able to make 4 shots. Count Zakry's inaccurate shots in an hour

A 45

B 50

C 55

D 60

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12. Hitung nilai-nilai x yang mungkin bagi persamaan $3^{x^2} \times 3^{2x} = 3^{15}$

Calculate the possible values of x for the equation $3^{x^2} \times 3^{2x} = 3^{15}$

A $x = 3$, $x = 5$

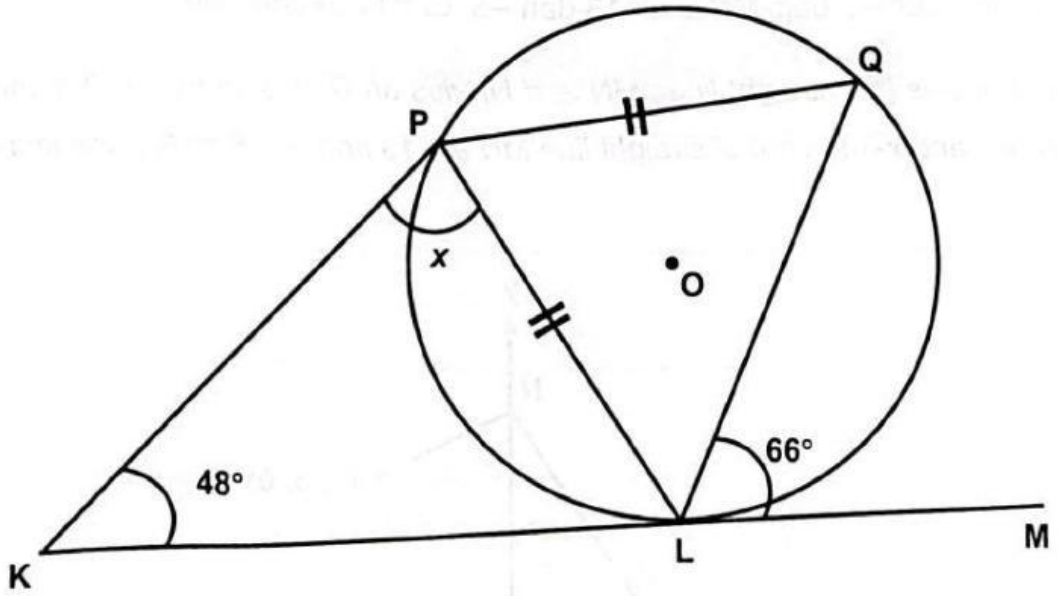
B $x = -3$, $x = 5$

C $x = 3$, $x = -5$

D $x = -3$, $x = -5$

13. Dalam Rajah 3, KLM ialah tangen kepada bulatan PLQ berpusat O di L

In Diagram 3, KLM is a tangent to the circle PLQ with centre O, at L



Rajah 3/ *Diagram 3*

Cari nilai x.

Find the value of x.

A 57°

B 66°

C 75°

D 114°

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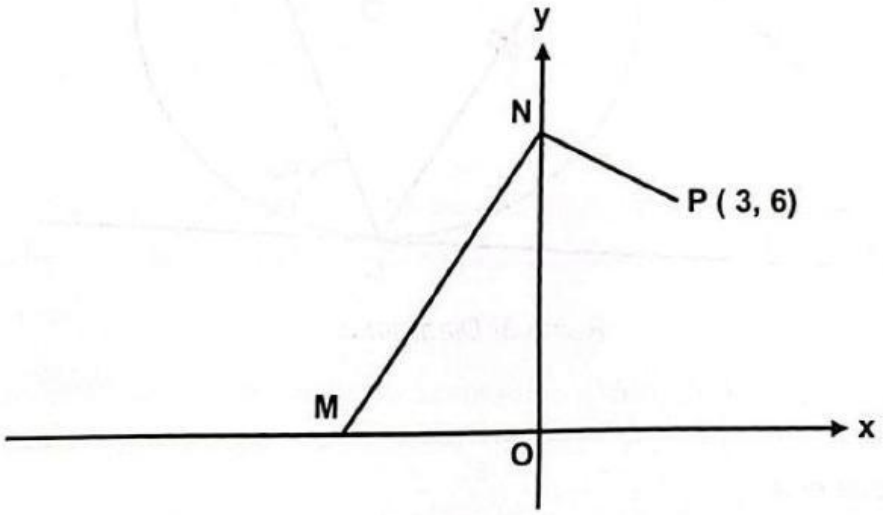
14. Diberi 1 milimeter = 10^{-3} meter dan 1 mikrometer = 10^{-6} meter.
Hitung nilai 1 milimeter dalam unit mikrometer dan nyatakan jawapan dalam bentuk piawai

Given 1 millimeter = 10^{-3}meters and 1 micrometer = 10^{-6} meters.
Calculate the value of 1 millimeter in units of micrometers and express the answer in standard form

A 1×10^{3}
B 1×10^{-3}
C 1×10^{2}
D 1×10^{-2}

15. Rajah 4 menunjukkan dua garis lurus MN dan NP pada satah cartes. O ialah asalan. Jarak dan pintasan$-x$ bagi MN ialah 13 dan -5. Cari kecerunan NP.

Diagram 4 shows two straight lines MN and NP lies on Cartesian plane. O is the origin. The distance and x-intercept of straight line MN are 13 and -5. Find the gradient of NP.



Rajah 4 / *Diagram* 4

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A $-\frac{1}{2}$

B $\frac{1}{2}$

C -2

D 2

16. Rajah 5 menunjukkan piktograf jualan buah durian Musang King di kedai Pak Mad pada bulan Mei. Jualan pada bulan Jun dan Julai tidak ditunjukkan.

Diagram 5 is a pictograph which shows the sales Musang King durians on May at Pak Mad's Stall. The sales on June and July are not shows.

Mei ***May***	
Jun ***June***	
Julai ***July***	

mewakill 40 durian

represents 40 durians

Rajah 5/ *Diagram* 5

Jualan durian Musang King pada bulan Mei, Jun dan Julai adalah dalam nisbah 4 : 5 : 3. Cari jumlah durian Musang King yang telah dijual dalam tiga bulan itu di kedai Pak Mad.

The sales of Musang King durians on May, June and July are in the ratio 4: 5 : 3. Find the the total of Musang King durians sold for three months.

A 320

B 400

C 480

D 960

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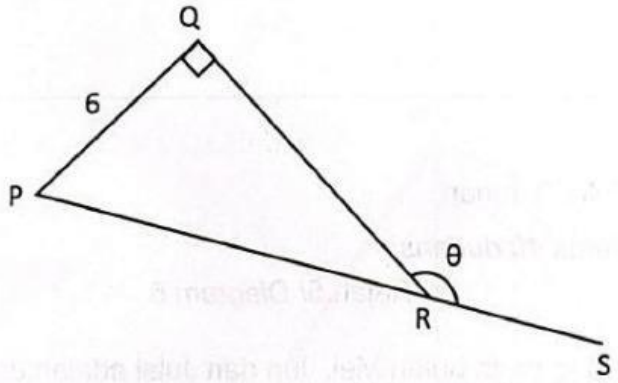
17. Hasnul membeli sebuah kereta yang bernilai RM120 000. Dia membayar wang pendahuluan 20% dan bakinya dibayar secara ansuran. Kadar faedah sama rata yang dikenakan ialah 3.8% setahun dan tempoh bayaran balik ialah 7 tahun. Hitung jumlah wang yang dibayar oleh Hasnul.

Hasnul bought a car worth RM120 000. He pays 20% down payment and the balance is payable in instalments. The flat interest rate imposed is 3.8% per annum and the repayment period is 7 years. Calculate the total amount paid by Hasnul.

A RM123 648
B RM124 560
C RM145 536
D RM151 920

18. Rajah 6 di bawah menunjukkan sebuah segi tiga bersudut tegak PQR. PRS adalah garis lurus.
Diagram 6 shows a right-angled triangle PQR. PRS is a straight line.



Rajah 6/ *Diagram 6*

Diberi tan $\theta = -\frac{3}{4}$. Cari panjang, dalam cm, *PR*.

Given tan $\theta = -\frac{3}{4}$. Find the lenght, in cm of *PR*.

A. 4
B. 8
C. 10
D. 12

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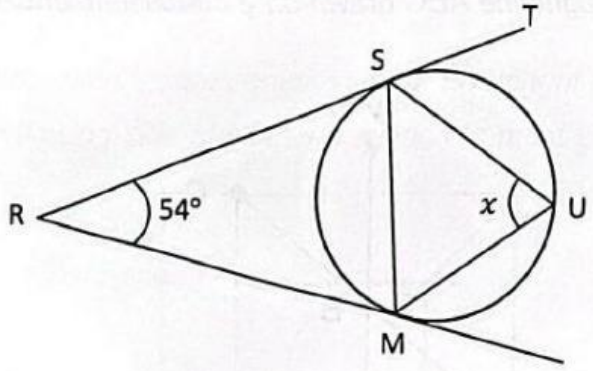
19. Dalam Rajah 7 di bawah, *PQR* dan *PST* ialah tangen kepada bulatan *QUS*.
In Diagram 7, PQR and PST are tangents to the circle QUS.

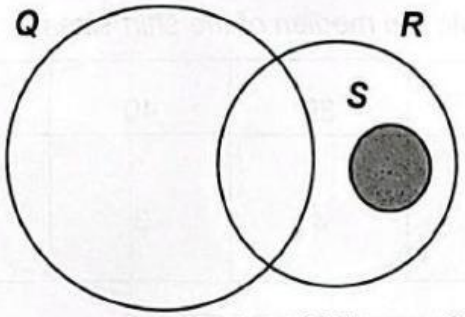


Rajah 7/ *Diagram 7*

Cari nilai x.
Find the value of x.

A 52°
B 63°
C 65°
D 68°

20. Rajah 8 menunjukkan set Q, R dan S. Antara berikut, yang manakah mewakili Kawasan berlorek?
Diagram 8 shows the sets Q, R and S. Which of the following represents the shaded area?



Rajah 8/ *Diagram 8*

A $(S \cap R)' \cup S$
B $(Q \cup R) \cap S$
C $S \cup R' \cup Q$
D $Q \cup R \cap S'$

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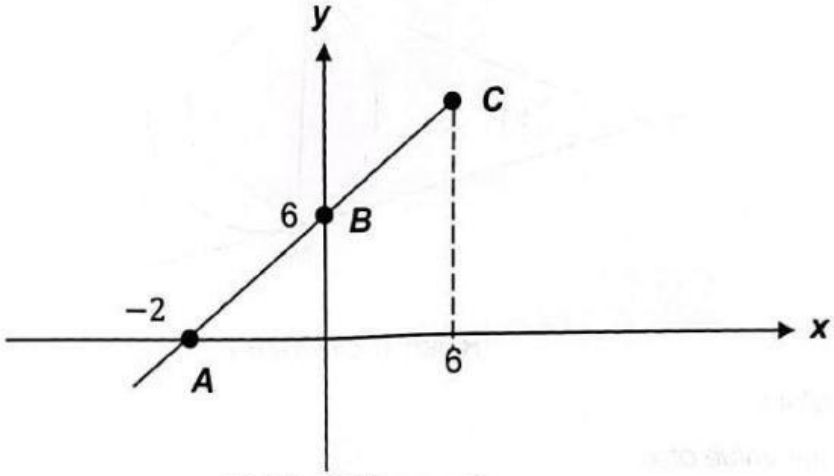
21. Rajah 9 menunjukkan satu garis lurus ABC yang dilukis pada suatu satah cartesian. Cari koordinat C.

Diagram 9 shows a straight line ABC drawn on a cartesian plane. Find the coordinates of C.



Rajah 9/ *Diagram 9*

A (6,12)

B (12, 6)

C (6, 24)

D (6, 8)

22. Jadual 2 menunjukkan saiz baju sekolah yang dipakai oleh murid-murid tingkatan 5 Amanah di sebuah sekolah menengah. Hitung median bagi saiz baju tersebut.

Table 2 shows the size of the school shirt worn by the students form 5 Amanah in a secondary school. Calculate the median of the shirt sizes.

Saiz baju *Shirt size*	38	39	40	41	42
Bilangan murid *Number of students*	5	4	3	8	9

Jadual 2 / *Table 2*

A 23

B 41

C 40.5

D 40

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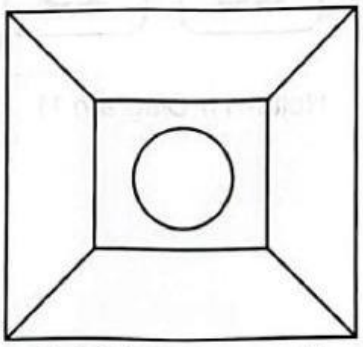
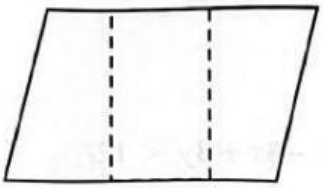
23. Rajah 10 menunjukkan pelan bagi gabungan sebuah prisma tegak dan sebuah silinder yang berada diatasnya. Antara berikut lukisan dongakan sisi yang manakah paling sesuai bagi gabungan pepejal tersebut.

Diagram 10 shows a plan for the combination of an upright prism and a cylinder on top of it. Which of the following side elevation drawings is most suitable for the combination of solids.

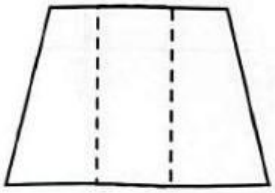


Rajah10/ *Diagram* 10

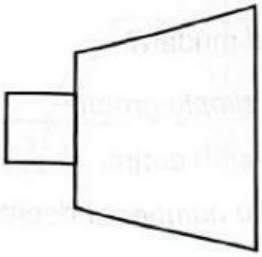
A



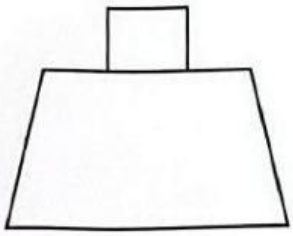
B



C



D



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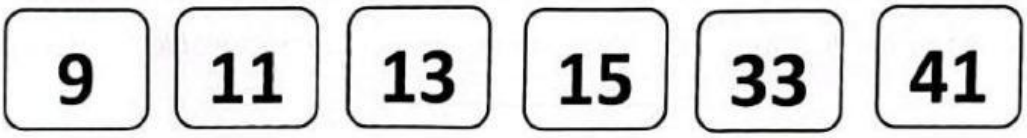
24. Rajah 11 menunjukkan beberapa keping kad nombor. Dua keping kad dipilih secara rawak tanpa pengembalian semula. Nyatakan kebarangkalian bahawa kedua-dua kad yang dipilih itu bukan nombor perdana.

Diagram 11 shows several pieces of number cards. Two cards are randomly selected without return. State the probability that both cards chosen are not prime numbers.



Rajah 11/ *Diagram* 11

A $\frac{1}{5}$

B $\frac{1}{6}$

C $\frac{5}{6}$

D $\frac{5}{36}$

25. Titik manakah yang memuaskan ketaksamaan $-3x + 3y < 12$?

Which point satisfies the inequality $-3x + 3y < 12$?

A $(7, 18)$

B $(-7, 18)$

C $(-2, 2)$

D $(-1, -2)$

26. Antara berikut, yang manakah bukan ciri bagi graf mudah?

Which of the following is not a characteristic of a simple graph?

A Bilangan tepi sama dengan dua kali bilangan darjah

The number of edges is equal to twice the number of degrees

B Tiada gelung

No loops

C Tidak berbilang tepi

No multiple edges

D Graf berpemberat

Weighted graph

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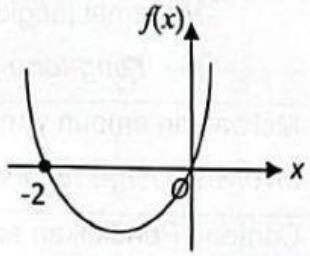
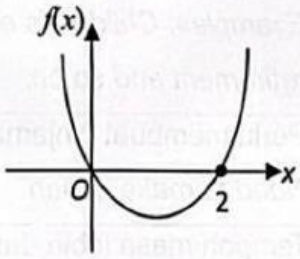
27. Graf manakah yang mewakili $f(x) = -x^2 - 2x$?

Which graph represent $f(x) = -x^2 - 2x$?

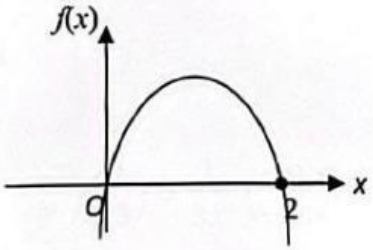
A



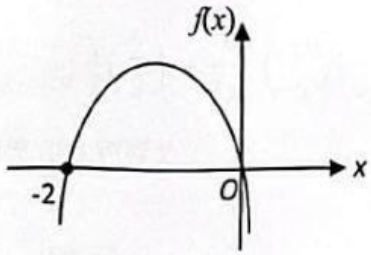
B



C



D



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28. Antara berikut, manakah yang **TIDAK BENAR** bagi perbezaan matlamat kewangan jangka pendek dengan jangka panjang?

*Which of the following is **NOT TRUE** for the difference between short-term and long-term financial goals?*

	Matlamat jangka pendek *Short-term goals*	Matlamat jangka panjang *Long-term goals*
A	Tidak melibatkan amaun yang besar *Does not involve a large amount*	Melibatkan amaun yang besar *Involves a large amount*
B	Contoh : Pembelian komputer riba, telefon bimbit, sofa dan sebagainya. *Examples: Purchase of laptops, mobile phones, sofas and so on*	Contoh : Pendidikan anak-anak, persaraan dan sebagainya. *Examples: Children's education, retirement and so on.*
C	Tidak perlu membuat pinjaman *No need to make a loan*	Perlu membuat pinjaman *Need to make a loan*
D	Tempoh masa kurang daripada 1 tahun *Duration less than 1 year*	Tempoh masa lebih daripada 5 tahun *Duration of more than 5 years*

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