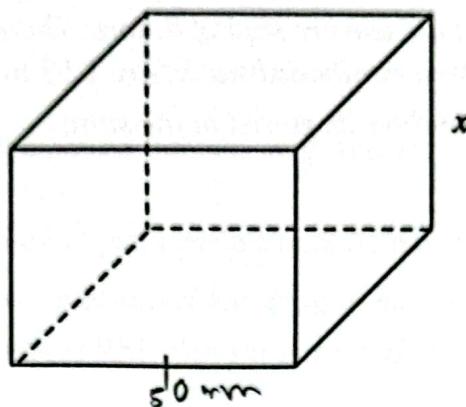


Jawab semua soalan.

- 1 Rajah 1 menunjukkan sebuah kotak berbentuk kubus. Luas setiap permukaan kotak tersebut adalah  $2\ 500 \text{ mm}^2$ .

*Diagram 1 shows a cubical shaped box. The area of each surface of the box is  $2\ 500 \text{ mm}^2$ .*



Rajah 1

Diagram 1

Cari nilai  $\sqrt{\frac{x}{2}}$ , dalam mm.

*Find the value of  $\sqrt{\frac{x}{2}}$ , in mm.*

- A 5
- B 25
- C 50
- D 250

- 2 Antara berikut, yang manakah merupakan suatu jujukan?

*Which of the following is a sequence?*

- A  $-9, -18, 0, 18, 9, \cancel{5}$
- B  $4, 7, 12, 18, 19, \dots$
- C  $5, 1.5, 0.45, 0.135, 0.0405, \dots$
- D  $28, 23, 18, 12, 8, \dots$

5 5

- 3 Syarikat Percetakan Millenium menggunakan kadbur dengan ketebalan  $1.2 \times 10^{-1}$  cm untuk menghasilkan kotak. Kadbur yang digunakan disimpan di dalam sebuah stor. Terdapat dua timbunan kadbur di dalam stor tersebut. Tinggi timbunan kadbur yang disimpan masing-masing adalah 1.53 m dan 1.65 m.

Hitung bilangan kadbur yang disimpan di dalam stor tersebut.

*Millenium Printing Company uses cardboard with a thickness of  $1.2 \times 10^{-1}$  cm to produce boxes. The cardboards that are used are kept in a store. There are two stacks of cardboards in the store. The height of the stored cardboard stacks are 1.53 m and 1.65 m respectively.*

*Calculate the number of cardboards stored in the store.*

- A  $1.82 \times 10^2$
- B  $2.65 \times 10^2$
- C  $1.82 \times 10^3$
- D  $2.65 \times 10^3$

- 4 Tinggi Shimi, Aien dan Midah masing-masing ialah  $10100001_2$  cm,  $231_8$  cm dan  $1123_5$  cm. Hitung purata ketinggian mereka, dalam cm.

*Height of Shimi, Aien and Midah are  $10100001_2$  cm,  $231_8$  cm and  $1123_5$  cm respectively.*

*Calculate the average height of them, in cm.*

- A 159
- B 160
- C 161
- D 163

$$\begin{array}{cccc}
 & 1 & 1 & 2 & 3 \\
 & 5^3 & 5^2 & 5^1 & 5^0 \\
 125 & 25 & 10 & 1
 \end{array}$$

- 5 Rajah 2 menunjukkan kadar semasa pertukaran mata wang Ringgit Malaysia kepada Dolar US.  
*Diagram 2 shows the current exchange rate of Malaysia Ringgit to US Dollar.*

$$\boxed{\text{RM}1 = \text{USD}0.21}$$

Rajah 2  
*Diagram 2*

Encik Aiman ingin menghadiahkan sebuah beg tangan berjenama kepada isterinya yang berharga USD1 370.

Hitung harga, dalam RM terdekat, yang perlu Encik Aiman bayar.

*Encik Aiman wanted to present a branded handbag to his wife which cost USD1 370.*

*Calculate the price, to the nearest RM, that should Encik Aiman pay.*

- A 6 524
- B 5 750
- C 5 480
- D 2 877

- 6 Diberi bahawa  $9m^2 = \frac{4p + r^2}{p}$ .

Ungkapkan  $r$  dalam sebutan  $m$  dan  $p$ .

*It is given that  $9m^2 = \frac{4p + r^2}{p}$ .*

*Express  $r$  in terms of  $m$  and  $p$ .*

- A  $r = \sqrt{p(3m - 2)}$
- B  $r = \sqrt{p(3m + 2)}$
- C  $r = \sqrt{p(3m - 2)(3m - 2)}$
- D  $r = \sqrt{p(3m + 2)(3m - 2)}$

- 7 Ungkapkan  $\frac{5y^2}{x^2 - y^2} \div \frac{xy}{x - y}$  sebagai satu pecahan tunggal dalam sebutan termudah.

Express  $\frac{5y^2}{x^2 - y^2} \div \frac{xy}{x - y}$  as a single fraction in its simplest form.

A  $\frac{5y}{x + y}$

B  $\frac{5y}{x^2 - y}$

C  $\frac{5y}{x^2 - xy}$

D  $\frac{5y}{x^2 + xy}$

$$\frac{4p^6 q^{-1}}{p} = \frac{4p^7}{q}$$

- 8 Ringkaskan:

Simplify:

$$\frac{(p^3 q^2)^3}{3p} \times 12p^{-3} q^{-7} = p^6 q^{-1}$$

A  $\frac{4p^2}{q}$

$$\frac{p^9 q^6}{\cancel{3p}} \times \frac{\cancel{12} p^{-3} q^{-7}}{1}$$

B  $\frac{4p^8}{q}$

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

C  $\frac{4p^5}{q}$

D  $\frac{4p^8}{q^2}$

9 Diberi bahawa  $3 \leq p \leq 6$  dan  $11 \leq q \leq 18$ , dengan keadaan  $p$  dan  $q$  ialah integer.

Cari nilai minimum bagi  $\frac{q}{p}$ .

Given that  $3 \leq p \leq 6$  and  $11 \leq q \leq 18$ , where  $p$  and  $q$  are integers.

Find minimum value for  $\frac{q}{p}$ .

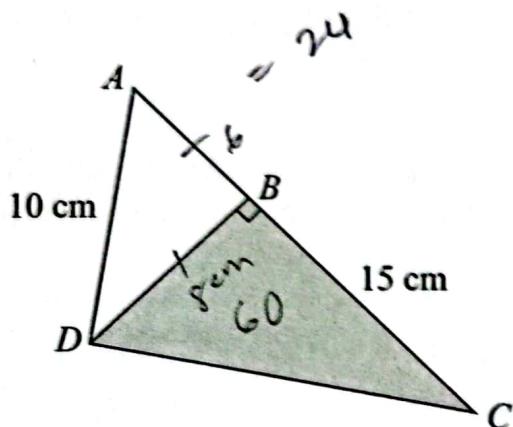
$3, 4, 5, 6$       ~~11, 10, 9, 8~~

$11, 12, 13, 14, 15, 16, 17, 18$

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

10 Rajah 3 menunjukkan sebuah segi tiga,  $ADC$ . Luas kawasan berlorek,  $BDC$  ialah  $60 \text{ cm}^2$  dan perimeter  $ABD$  ialah  $24 \text{ cm}$ .

Diagram 3 shows a triangle,  $ADC$ . The area of shaded region,  $BDC$  is  $60 \text{ cm}^2$  and perimeter  $ABD$  is  $24 \text{ cm}$ .



$$\frac{1}{2} \times 15 \times r = 60$$

8

Rajah 3  
Diagram 3

Hitung panjang  $AC$ , dalam cm.

Calculate the length of  $AC$ , in cm.

- A 6
- B 15
- C 21
- D 23

11

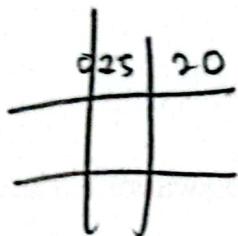
Rintangan,  $R \Omega$  seutas wayar berubah secara langsung dengan panjangnya,  $l$  cm dan secara songsang dengan kuasa dua diameternya,  $d$  cm. Seutas dawai dengan panjang 500 cm dan diameter 0.25 cm mempunyai rintangan  $20 \Omega$ .

Cari rintangan, dalam  $\Omega$ , jika 10.0 m wayar yang berdiameter 0.50 cm digunakan.

*The resistance,  $R \Omega$  of a wire varies directly as its length,  $l$  cm and inversely as the square of its diameter,  $d$  cm. A wire with a length of 500 cm and a diameter of 0.25 cm has a resistance of  $20 \Omega$ .*

*Find the resistance, in  $\Omega$ , if 10.0 m wire with the diameter of 0.50 cm is used.*

- A 10.00
- B 20.00
- C 28.28
- D 64.00



$$R = 500k \left( \frac{1}{d^2} \right)$$

$$R \propto l \left( \frac{1}{d^2} \right)$$

$$R = k l \left( \frac{1}{d^2} \right)$$

12

Amira memiliki sebuah rumah di Taman Mewah. Beliau perlu membayar RM288 setahun untuk cukai pintu. Diberi sewa bulanan yang diterima oleh Amira ialah RM800 dan kadar cukai pintu ialah  $x\%$ .

Hitung nilai  $x$ .

*Amira owns a house in Taman Mewah. She has to pay RM288 per year for her property assessment tax. It is given that the monthly rental she received is RM800 and the property assessment tax rate is  $x\%$ .*

*Calculate the value of  $x$ .*

A	2%	$800 \times x = 288$	$12 = 288$
(B)	3%		
C	4%	25	1 = 800
D	5%	24	80

- 13 Diberi persamaan linear serentak  $6x - ey = 8$  dan  $fx + 4 = y$  tidak mempunyai penyelesaian.  
Ungkapkan  $e$  dalam sebutan  $f$ .  
*Given that the simultaneous linear equations  $6x - ey = 8$  and  $fx + 4 = y$  has no solution.  
Express  $e$  in terms of  $f$ .*

A  $e = f - 6$

$$6x - ey = 8 \quad , \quad f$$

B  $e = 6 + f$

$$fx + 4 = y$$

C  $e = 6f$

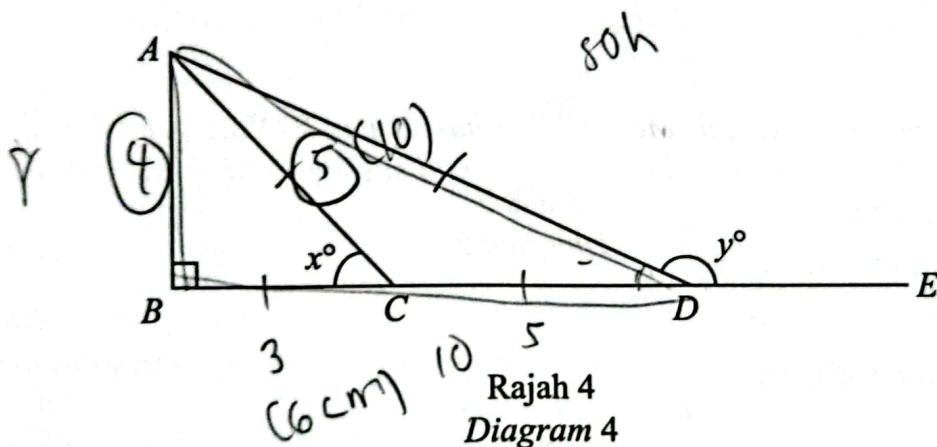
$$6x - efx - 4e = 8$$

D  $e = 6f^{-1}$

$$\frac{6x - efx - 4e}{8+4} = 8$$

- 14 Dalam Rajah 4,  $BCDE$  ialah satu garis lurus. Diberi bahawa  $\sin x^\circ = \frac{4}{5}$ ,  $AC = CD$  dan  $AB = 8\text{ cm}$ .

*In Diagram 4,  $BCDE$  is a straight line. Given that  $\sin x^\circ = \frac{4}{5}$ ,  $AC = CD$  and  $AB = 8\text{ cm}$ .*



Cari nilai bagi  $\tan y^\circ$ .

*Find the value of  $\tan y^\circ$ .*



A  $-\frac{2}{3}$

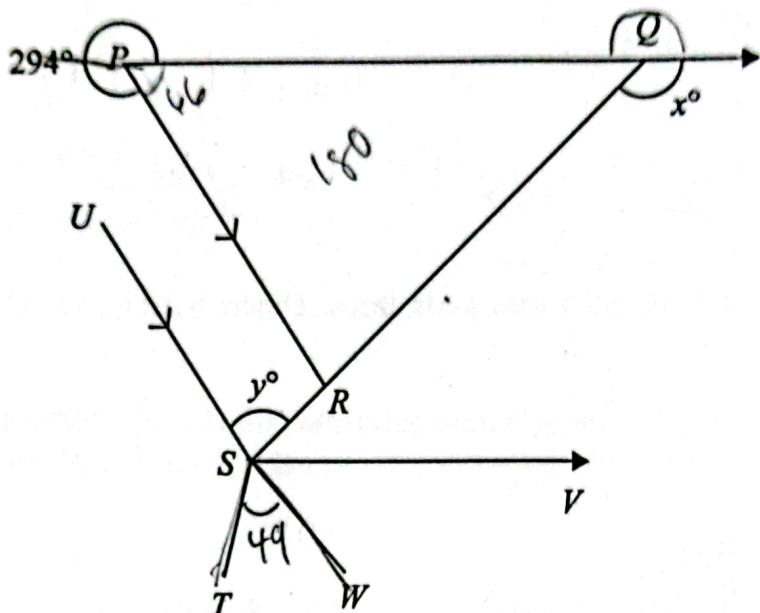
B  $-\frac{1}{2}$

C  $\frac{1}{2}$

D  $\frac{4}{3}$

- 15 Dalam Rajah 5, garis  $SRQ$  adalah garis lurus. Garis  $PQ$  adalah selari dengan garis  $SV$  manakala garis  $PR$  adalah selari dengan garis  $US$ . Diberi bahawa sudut refleks bagi  $RPQ$  adalah enam kali ganda sudut  $TSW$  manakala  $\angle TSW$ ,  $\angle WSV$  dan  $\angle RSV$  adalah kongruen.

*In Diagram 5, the line  $SRQ$  is a straight line. Line  $PQ$  is parallel to line  $SV$  while line  $PR$  is parallel to line  $US$ . Given that the reflex angle of  $RPQ$  is six times angle of  $TSW$  while  $\angle TSW$ ,  $\angle WSV$  and  $\angle RSV$  are congruent.*



Rajah 5  
Diagram 5

Hitung nilai  $x + y$ .

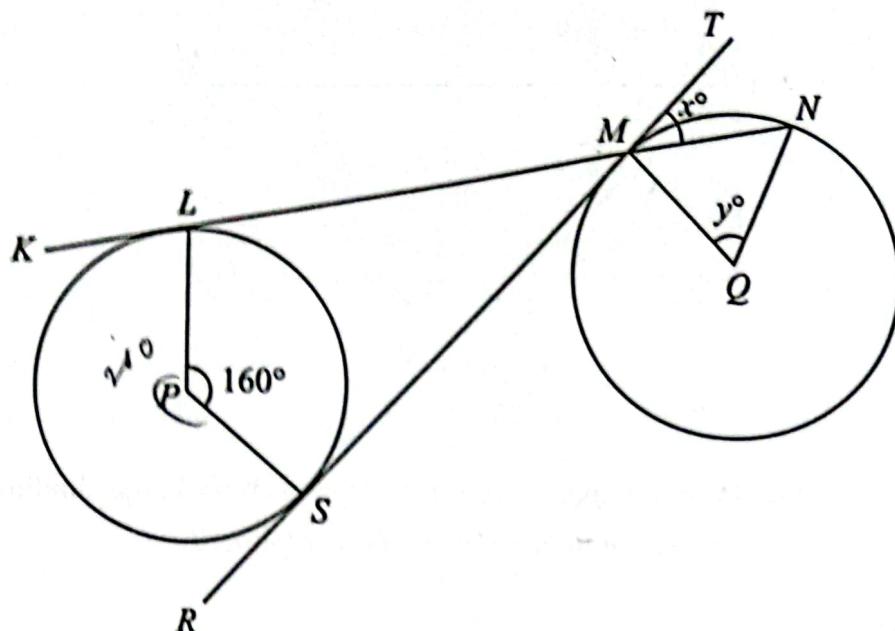
Calculate the value of  $x + y$ .

- A 164
- B 196
- C 204
- D 272

16

Rajah 6 menunjukkan dua bulatan, masing-masing berpusat di  $P$  dan  $Q$ .  $RSMT$  ialah tangen sepunya kepada bulatan-bulatan tersebut, masing-masing di  $S$  dan di  $M$ .  $KLMN$  ialah tangen kepada bulatan berpusat  $P$  di  $L$ .

Diagram 6 shows two circles with centre  $P$  and  $Q$  respectively.  $RSMT$  is a common tangent to the circles at  $S$  and  $M$  respectively.  $KLMN$  is a tangent to the circle, centre  $P$  at  $L$ .



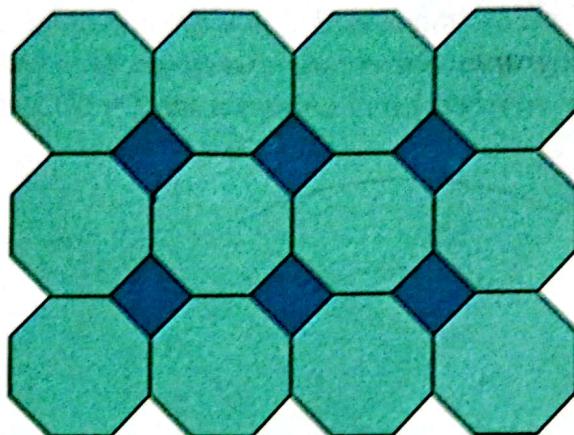
Rajah 6  
Diagram 6

Cari nilai  $y - x$ .

Find the value of  $y - x$ .

- A 20
- B 40
- C 60
- D 70

- 17 Rajah 7 menunjukkan corak bagi kertas dinding yang akan ditampal pada sebuah dinding.  
*Diagram 7 shows the pattern for wallpaper that will be pasted on a wall.*



Rajah 7  
Diagram 7

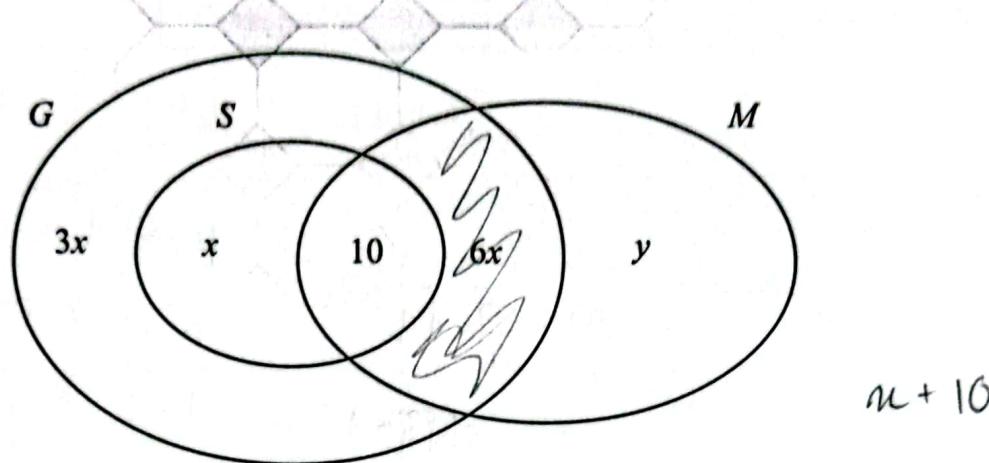
Apakah yang dapat anda simpulkan berdasarkan kepada corak kertas dinding tersebut?  
*What can you conclude based on the pattern of the wallpaper?*

- A Isometri  
*Isometry*
- B Serupa  
*Similar*
- C Kongruen  
*Congruent*
- D  Teselasi  
*Tessellation*

18

Rajah 8 ialah gambar rajah Venn yang menunjukkan bilangan murid bagi set  $G$ , set  $M$  dan set  $S$ . Diberi set  $G = \{\text{ahli Persatuan Geografi}\}$ , set  $M = \{\text{ahli Persatuan Matematik}\}$ , set  $S = \{\text{ahli Persatuan Sains}\}$  dan set semesta,  $\xi = G \cup M \cup S$ .

Diagram 8 is a Venn diagram showing the number of students in set  $G$ , set  $M$  and set  $S$ . It is given that set  $G = \{\text{Geography Society members}\}$ , set  $M = \{\text{Mathematics Society members}\}$ , set  $S = \{\text{Science Society members}\}$  and universal set,  $\xi = G \cup M \cup S$ .



Rajah 8  
Diagram 8

Satu per empat daripada murid yang menyertai Persatuan Geografi juga menyertai Persatuan Sains.

Cari bilangan murid yang menyertai dua persatuan sahaja.

*One fourth of the students who join the Geography Society also join the Science Society.  
Find the number of students who join two societies only.*

- A 5
- B 30
- C 35
- D 45

$$\frac{1}{4} \times 3n + n + 10 + 6n$$

$$\frac{1}{4} \times 10n + 10$$

1.5

$$\frac{3}{7}$$

$$\frac{5}{2} + 10n$$

$$\frac{1}{4} \times 3n + n + 10 + 6n = n + 10$$

$$\frac{1}{4} \times 10 + 10n$$

$$\begin{aligned} \frac{5}{4} + 10n &= 20 \\ 10n &= 15 \end{aligned}$$

- 19 Jadual 1 menunjukkan nilai  $p$  dan  $q$ . Diberi bahawa  $p$  berubah secara langsung dengan punca kuasa dua  $q$ .

Table 1 shows the values of  $p$  and  $q$ . It is given that  $p$  varies directly as the square root of  $q$ .

$p$	15.5	20
$q$	9	$m$

Jadual 1  
Table 1

$$p = k\sqrt{q^2}$$

$$20 = \frac{5}{3}(\sqrt{q^2})$$

$$60 = \frac{20}{\frac{5}{3}} = 5$$

$$p \propto \sqrt{q^2} \quad \frac{p}{\sqrt{q^2}} = \left(\frac{5}{3}\right)^2$$

Hitung nilai  $m$ .

Calculate the value of  $m$ .

A 2

$$20 = \frac{5}{3}\sqrt{q^2}$$

$$p = k\sqrt{q^2}$$

B 4

$$60 = 5(\sqrt{q^2})$$

$$15 = k\sqrt{q^2}$$

C 8

$$\frac{60}{\sqrt{q^2}} = 5$$

$$15 = 9k$$

D 16

$$\sqrt{5^2}$$

$$\frac{5}{3}$$

- 20 Jadual 2 menunjukkan taburan markah peserta dalam suatu kuiz Sains. Bilangan peserta yang memperoleh 1 markah ialah setengah daripada jumlah bilangan peserta yang memperoleh sekurang-kurangnya 2 markah.

Table 2 shows the marks distribution of participants in a Science quiz. The number of participants who scored 1 mark is half of the total number of participants who scored at least 2 marks.

Markah Mark	0	1	2	3	4
Kekerapan Frequency	6	$x$	9	4	8

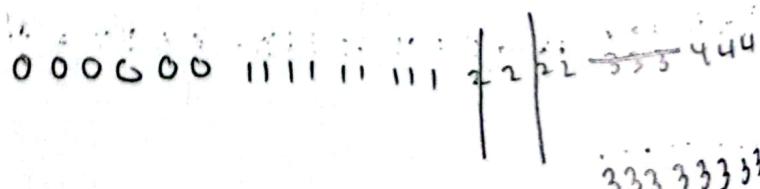
Jadual 2  
Table 2

$$x = 4$$

Cari skor median.

Find the median score.

A 1.0



B 2.0

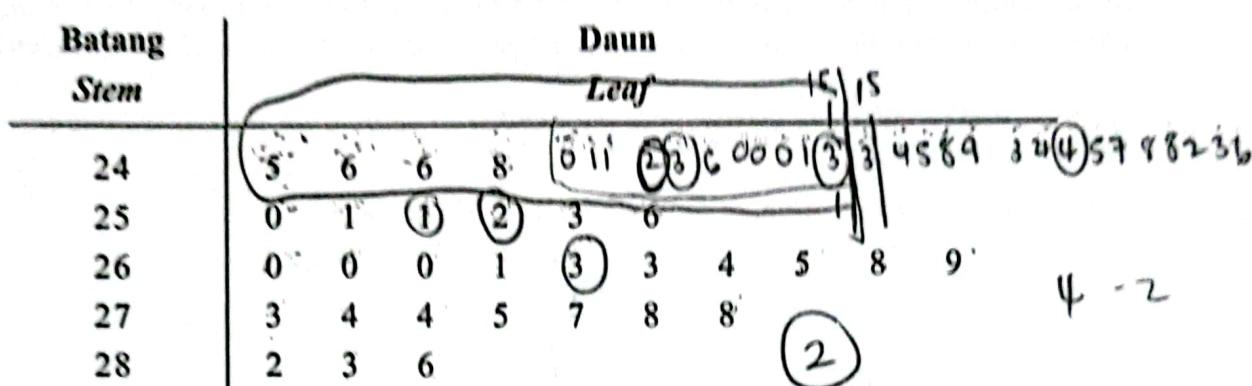
C 2.5

D 4.0

- 21 Rajah 9 menunjukkan plot batang-dan-daun bagi masa, dalam saat, yang diambil oleh sekumpulan peserta acara pusingan awal larian 400 m.

*Diagram 9 shows the stem-and-leaf plot for the time taken, in seconds, by a group of participants in preliminary round of 400 m run.*

Masa Larian Peserta  
Participant's Running Time



Kekunci : 24 | 5 bermaksud 24.5 saat  
Key : 24 | 5 means 24.5 seconds

Rajah 9  
Diagram 9

Hitungkan julat antara kuartil bagi masa larian peserta.

*Calculate the interquartile range for participant's running time.*

- A 2.2  
B 2.3  
C 25.2  
D 27.4

24.5 24.6 24.6 24.8 250 251 251 252 253 253 256 260 260 260 260

24.5 24.6 24.6 24.8 250 251 251 252 253 253 256 260 260 260 260

2633

- 22 Laili membeli sebuah kereta dengan harga RM79 000. Selepas 5 tahun, Laili ingin menjual kereta tersebut. Berdasarkan penerangan pihak pembeli kereta terpakai, harga kereta Laili akan dihitung dengan formula  $\text{RM}79\ 000 \left(\frac{8}{9}\right)^n$ , di mana  $n$  ialah bilangan tahun yang dihitung selepas sebuah kereta dibeli.

Hitung nilai pasaran, dalam RM terdekat, kereta Laili.

*Laili bought a car for RM79 000. After 5 years, Laili wishes to sell the car. Based on the explanation from the used car dealers, the price of Laili's car will be calculated using the formula  $\text{RM}79\ 000 \left(\frac{8}{9}\right)^n$ , where  $n$  is the number of years after the car is bought.*

*Calculate the market value, to the nearest RM, of Laili's car.*

- A 40 000
- B 43 000
- C 43 839
- D 43 900

- 23 Diberi  $\begin{pmatrix} 2 & x \\ 1 & 4 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix} = \begin{pmatrix} 6 \\ y \end{pmatrix}$ , cari nilai  $x$  dan  $y$ .

*Given  $\begin{pmatrix} 2 & x \\ 1 & 4 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix} = \begin{pmatrix} 6 \\ y \end{pmatrix}$ , find the values of  $x$  and  $y$ .*

- A  $x = 2, y = 8$
- B**  $x = 2, y = 9$
- C  $x = 6, y = 8$
- D  $x = 4, y = 7$

$$\begin{array}{c|c}
& 1 \\
\hline 2 & x \\
1 & 4 \\
\hline & 6 \\
& y
\end{array}$$

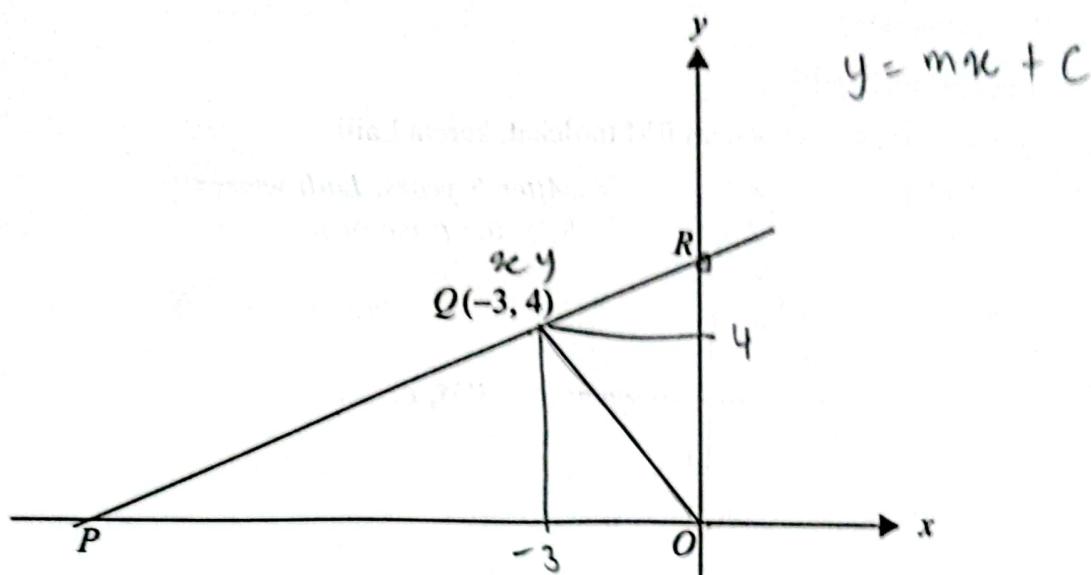
$$2(1) + x(2) = 6 = 2$$

$$1(1) + 4(2) = 4$$

24

Dalam Rajah 10,  $O$  ialah asalan dan  $PQR$  ialah garis lurus dengan  $OQ = OR$ .

In Diagram 10,  $O$  is the origin and  $PQR$  is a straight line with  $OQ = OR$ .



Rajah 10  
Diagram 10

$$y_1 - y_2$$

Cari pintasan- $y$  bagi garis lurus  $PQR$ .

Find the  $y$ -intercept of straight line  $PQR$ .

- A 5
- B 6
- C 7
- D 8

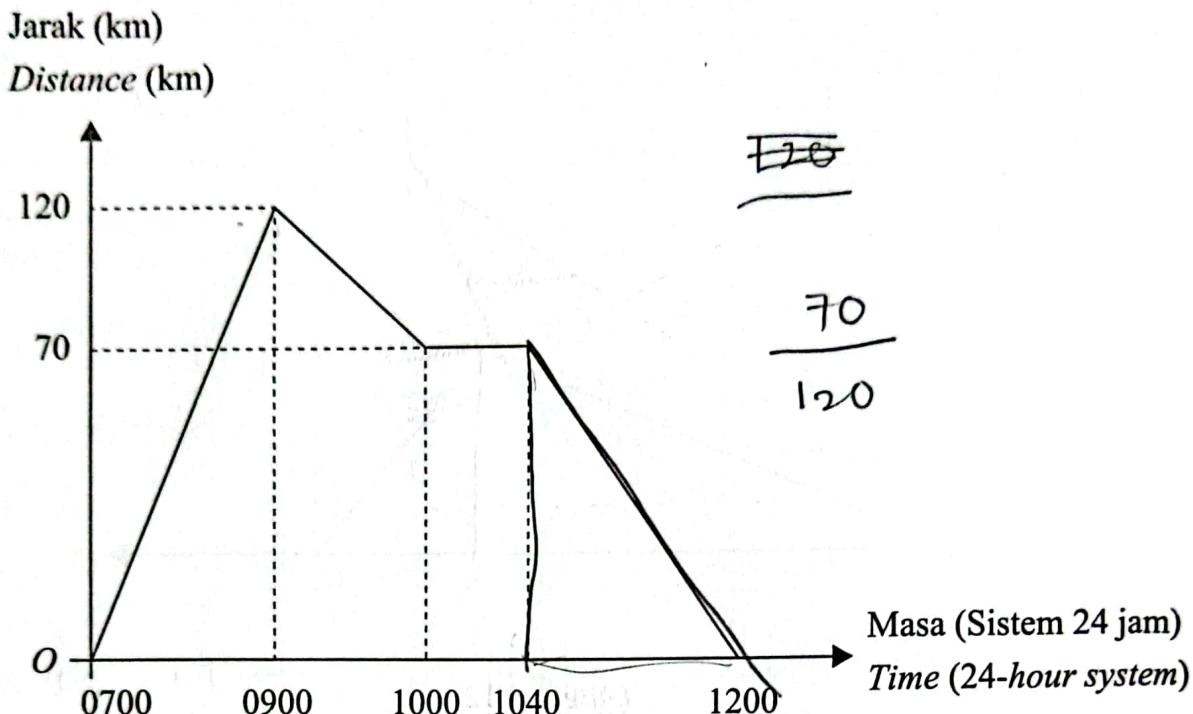
$$y = mx + c$$

$$\frac{4 - 0}{-3 - 0}$$

$$4 = -3m$$

$$-\frac{4}{3} (-3) \quad -\frac{4}{3}$$

- 25 Rajah 11 menunjukkan sebuah graf jarak-masa sebuah motosikal.  
*Diagram 11 shows a distance-time graph of a motorcycle.*



Rajah 11  
*Diagram 11*

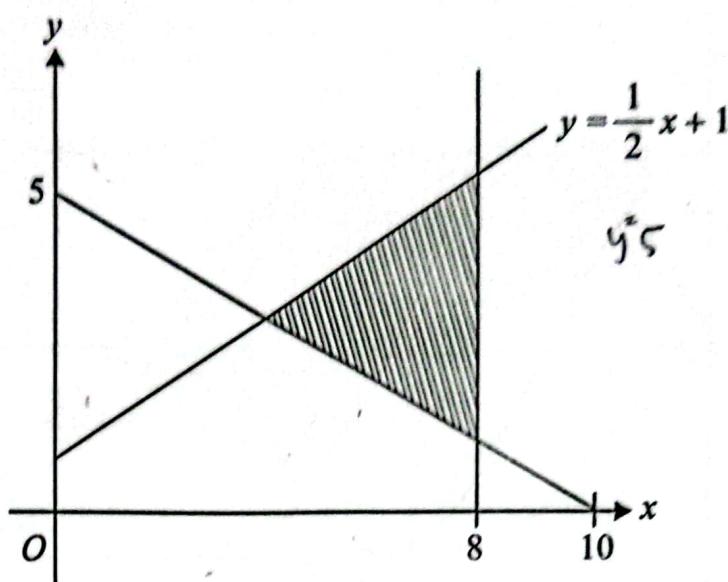
Cari jarak dan laju purata motosikal tersebut dalam masa 120 minit yang terakhir.  
*Find the distance and the average speed of the motorcycle in the last 120 minutes.*

	Jarak (km) <i>Distance (km)</i>	Laju purata ( $\text{km j}^{-1}$ ) <i>Average speed (km h<sup>-1</sup>)</i>
A	120	40
B	120	30
C	70	52.5
D	70	35

26

Rajah 12 menunjukkan tiga garis lurus yang dilukis di atas satah Cartes.

Diagram 12 shows three straight lines which are drawn on the Cartesian plane.



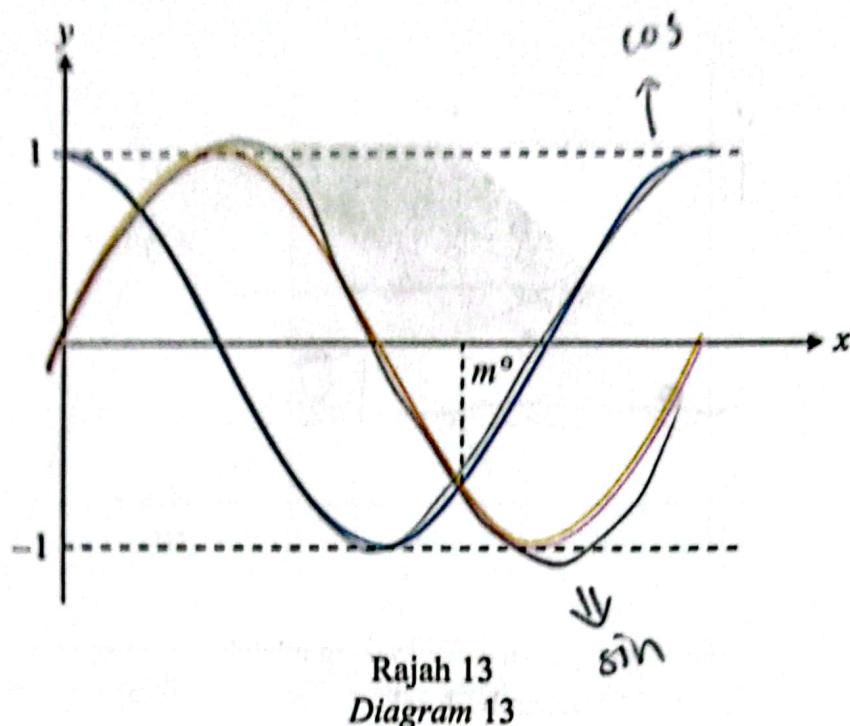
Rajah 12  
Diagram 12

Antara berikut, ketaksamaan manakah yang memuaskan rantau berlorek tersebut?

Which of the following inequalities satisfies the shaded region?

- A  $y < \frac{1}{2}x + 1$ ,  $x < -2y + 5$  dan / and  $x < 8$
- B  $y \leq \frac{1}{2}x + 1$ ,  $x > -2y + 5$  dan / and  $x \leq 8$
- C  $y > \frac{1}{2}x + 1$ ,  $y < -x + 5$  dan / and  $x > 8$
- D  $y \leq \frac{1}{2}x + 1$ ,  $2y \geq -x + 10$  dan / and  $x \leq 8$

- 37 Rajah 13 menunjukkan graf bagi  $y = \sin 2x$  dan  $y = \cos 2x$ .  
*Diagram 13 shows the graph of  $y = \sin 2x$  and  $y = \cos 2x$ .*



Cari nilai  $m$ .

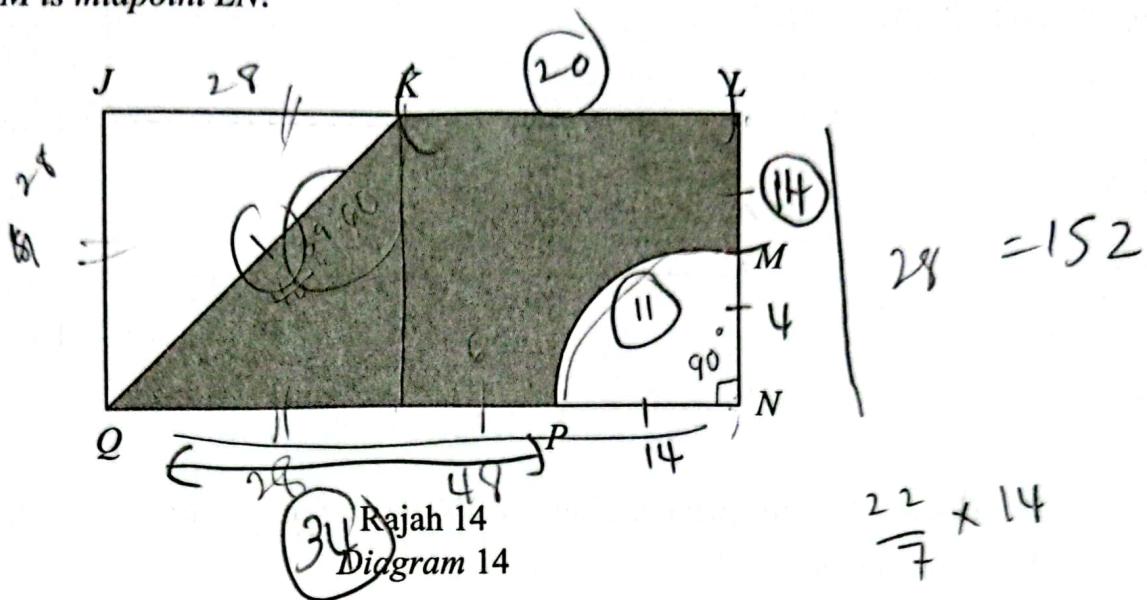
*Find the value of  $m$ .*

- A 102.5
- B 112.5
- C 135.0
- D 225.0

28

Rajah 14 menunjukkan sebuah segi empat tepat  $JLNQ$ .  $JKQ$  ialah sebuah segi tiga sama kaki dan  $MNP$  ialah sebuah sukuan berpusat  $N$ .  $M$  ialah titik tengah  $LN$ .

Diagram 14 shows a rectangle  $JLNQ$ .  $JKQ$  is an isosceles triangle and  $MNP$  is a quadrant with centre  $N$ .  $M$  is midpoint  $LN$ .



Diberi bahawa, panjang  $LN$  dan  $QN$  masing-masing adalah 28 cm dan 48 cm.

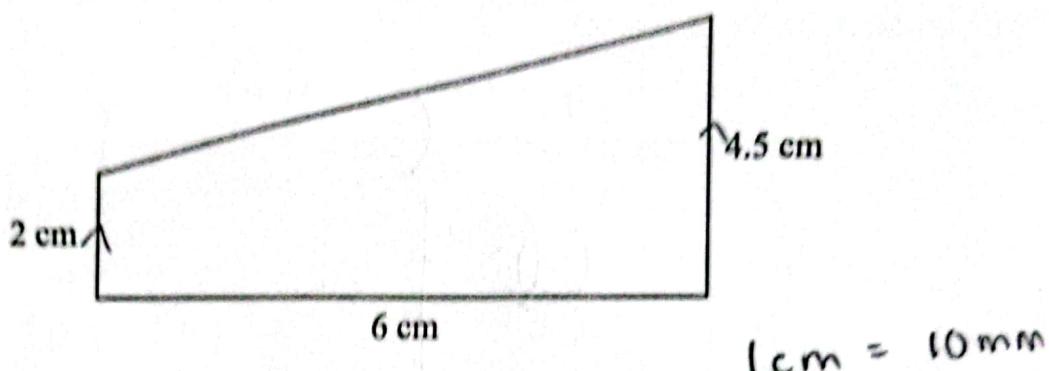
Hitung perimeter, dalam cm, kawasan berlorek.

Given that, length of  $LN$  and  $QN$  are 28 cm and 48 cm respectively.

Calculate the perimeter, in cm, of shaded region.

- A 129.60
- B 135.60
- C 143.60
- D 261.60

- 29 Rajah 15 menunjukkan pelan trek jogging di Taman Harmoni, dilukis dengan skala  $1 : 20\,000$ .  
*Diagram 15 shows a plan of jogging track at Taman Harmoni, drawn with scale  $1 : 20\,000$ .*



Rajah 15  
*Diagram 15*

Zaki melakukan dua pusingan larian dalam masa sejam di trek tersebut.

Hitung purata laju, dalam  $\text{m s}^{-1}$ , larian Zaki.

*Zaki did two rounds of running on that track in an hour.*

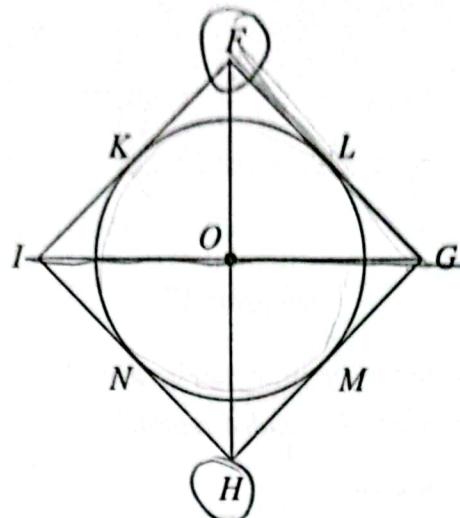
*Calculate the average speed,  $\text{m s}^{-1}$ , of Zaki's run.*

- A 1.06
- B 1.19
- C 2.00
- D 2.11

$$L = \frac{tS}{Pn}$$

- 30** Rajah 16 merupakan sebuah rombus  $FGHI$  dan sebuah bulatan berpusat di  $O$ . Titik  $K$ , titik  $L$ , titik  $M$  dan titik  $N$  masing-masing ialah titik tengah bagi garis  $IF$ , garis  $FG$ , garis  $GH$  dan garis  $HI$ .

Diagram 16 shows a rhombus  $FGHI$  and a circle with centre at  $O$ . Points  $K$ ,  $L$ ,  $M$  and  $N$  are the midpoints of lines  $IF$ ,  $FG$ ,  $GH$  and  $HI$  respectively.



Rajah 16  
Diagram 16

Lokus  $V$  ialah satu titik yang bergerak dengan jarak sentiasa sama dari titik  $F$  dan titik  $H$ .  
Lokus  $W$  ialah satu titik yang bergerak dengan keadaan  $WO = OL$ .

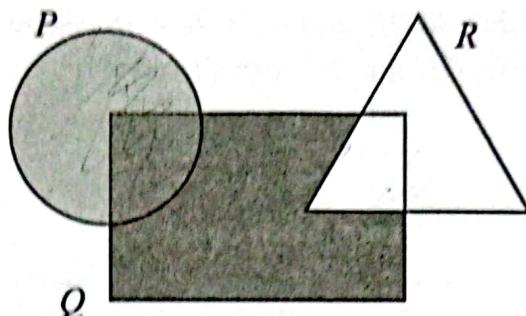
Antara berikut, yang manakah benar bagi lokus  $V$  dan lokus  $W$ ?

*Locus V is a point that moves equidistant from the point F and point H. Locus W is a point that moves such that  $WO = OL$ .*

*Which of the following is true for the locus V and locus W?*

	<b>Lokus <math>V</math></b> <i>Locus V</i>	<b>Lokus <math>W</math></b> <i>Locus W</i>
A	Garis $GI$ <i>Line GI</i> ✓	Garis $FG$ <i>Line FG</i>
B	Bulatan $KLMN$ <i>Circle KLMN</i> ✗	Garis $FH$ <i>Line FH</i>
C	Garis $FH$ <i>Line FH</i> ✗	Bulatan $KLMN$ <i>Circle KLMN</i>
D	Garis $GI$ <i>Line GI</i> ✓	Bulatan $KLMN$ <i>Circle KLMN</i>

- 31 Rajah 17 ialah gambar rajah Venn dengan keadaan set semesta  $\xi = P \cup Q \cup R$ .  
*Diagram 17 is a Venn diagram such that universal set  $\xi = P \cup Q \cup R$ .*



Rajah 17  
*Diagram 17*

Antara berikut, yang manakah mewakili rantau berlorek?  
*Which of the following represents the shaded region?*

*R* ~~Q~~ ~~Q~~

- A  $(P \cup Q)' \cap R$   
 B  $(P \cap Q) \cup R$  ~~X~~  
 C  $(P \cup Q) \cap R'$   
 D  $(P \cap Q) \cap R$  ~~X~~

P U

- 32 Helmi ingin menyimpan wang sebanyak RM9 000 di Bank M dengan kadar faedah mudah 3% setahun.

Hitung bilangan tahun minimum yang Helmi perlu menyimpan supaya dia dapat menggunakan wang simpanan tersebut untuk membuat bayaran deposit motosikal yang bernilai RM10 000.

*Helmi wants to save RM9 000 at Bank M with simple interest rate of 3% per annum.*

*Calculate the minimum number of years should Helmi save so that he could use the savings to pay for the deposit of the motorcycle that worth RM10 000.*

- A 3  
 B 4  
 C 5  
 D 6

*f = 270*

33 Jadual 3 menunjukkan maklumat bagi suatu set data.

Table 3 shows the information of a set of data.

Set Set	Data Data	Sisihan piawai Standard deviation
Asal Original	$x_1, x_2, x_3, \dots$	$\sqrt{\frac{3n}{3}} = 4$
Baharu New	$(nx_1 + 8, nx_2 + 8, nx_3 + 8, \dots)$	$p = 20$

Jadual 3  
Table 3

Nyatakan nilai  $n$  jika  $p = 20$ .

State the value of  $n$  if  $p = 20$ .

$$n\mu_1 + 8, n\mu_2 + 8$$

$$\sqrt{\frac{3n^2}{3}} = 20$$

- A 3
- B 4
- C 5
- D 6

34 Dua biji dadu adil dilambung.

Hitung kebarangkalian mendapat (nombor perdana kurang daripada 5) pada dadu pertama dan nombor ganjil pada dadu kedua.

Two fair dices are tossed.

Calculate the probability of getting a prime number less than 5 on the first dice and an odd number on the second dice.

- A  $\frac{1}{6}$
- B  $\frac{3}{4}$
- C  $\frac{4}{5}$
- D  $\frac{5}{6}$

$$2 \ 3 \cancel{4} \quad \frac{2}{6} \quad 1 \ 3 \ 5$$

$$\frac{3}{6}$$

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Jadual 4 menunjukkan maklumat kewangan bulanan Encik Zul.  
*Table 4 shows the information of monthly financial for Encik Zul.*

Pendapatan <i>Income</i>	$2400^0$ RM6 000 $\times 4$
Perbelanjaan tetap <i>Fixed expenses</i>	$180^0$ RM1 200 $\times 4$
Perbelanjaan tidak tetap <i>Variable expenses</i>	$520^0$ RM1 300 $\times 4$

9200  
 $\left. \begin{array}{l} \\ \\ \end{array} \right\} 2500$

Jadual 4  
*Table 4*

9200  $\rightarrow 4$

Encik Zul akan melancong ke Sarawak dengan keluarganya dalam tempoh 4 bulan. Anggaran kos perbelanjaannya adalah sebanyak RM9 200. Encik Zul perlu menyimpan RMx sebulan daripada pendapatannya untuk mencapai matlamat beliau.

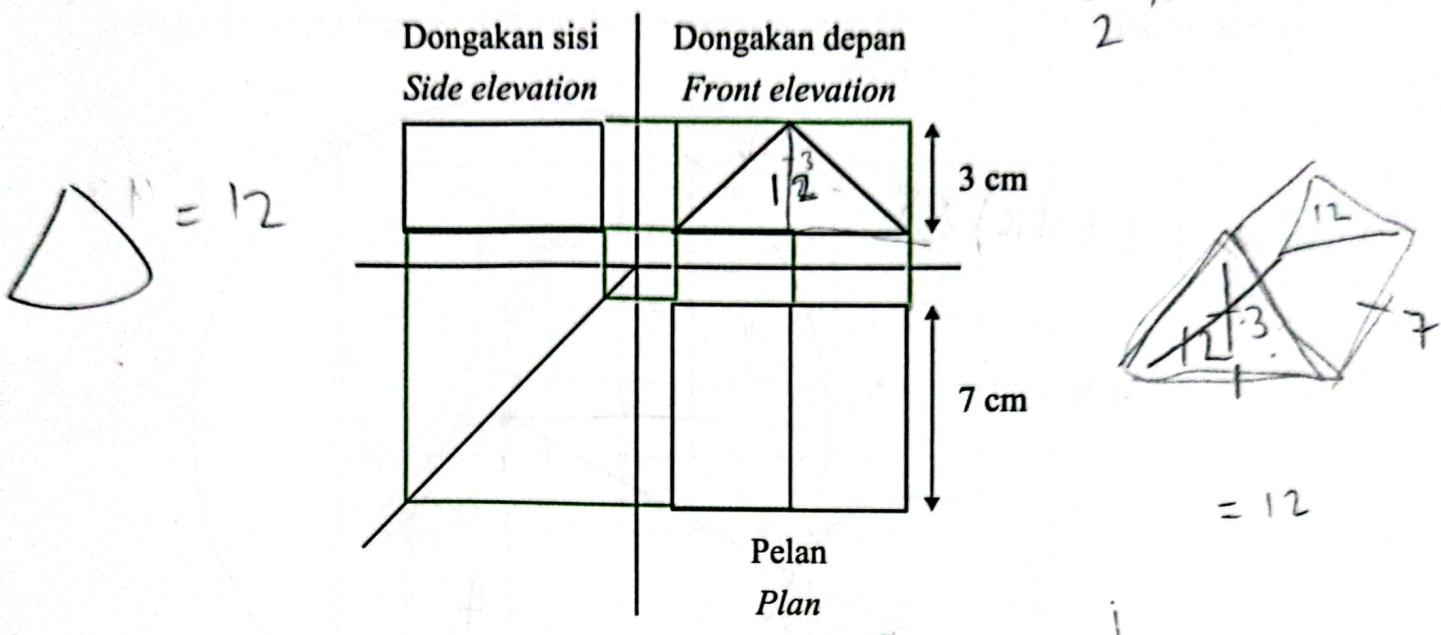
Dengan menganggap perbelanjaan bulanan Encik Zul tidak berubah, hitung pendapatan lebihan bulanan Encik Zul.

*Encik Zul will travel to Sarawak with his family in 4 months time. The estimated cost for the trip is RM9 200. Encik Zul needs to save RMx a month from his income to achieve his goal.*

*By assuming there are no changes in Encik Zul's monthly expenses, calculate Encik Zul's monthly surplus of income.*

- A RM1 200
- B RM1 250
- C RM2 100
- D RM2 250

- 36 Rajah 18 menunjukkan pelan, dongakan depan dan dongakan sisi sebuah pepejal Y.  
*Diagram 18 shows a plan, front and side elevations of a solid Y.*



Rajah 18  
*Diagram 18*

Diberi luas segi tiga sama kaki ialah  $12 \text{ cm}^2$ .

Hitung jumlah luas permukaan, dalam  $\text{cm}^2$ , pepejal Y.

*Given that area of the isosceles triangle is  $12 \text{ cm}^2$ .*

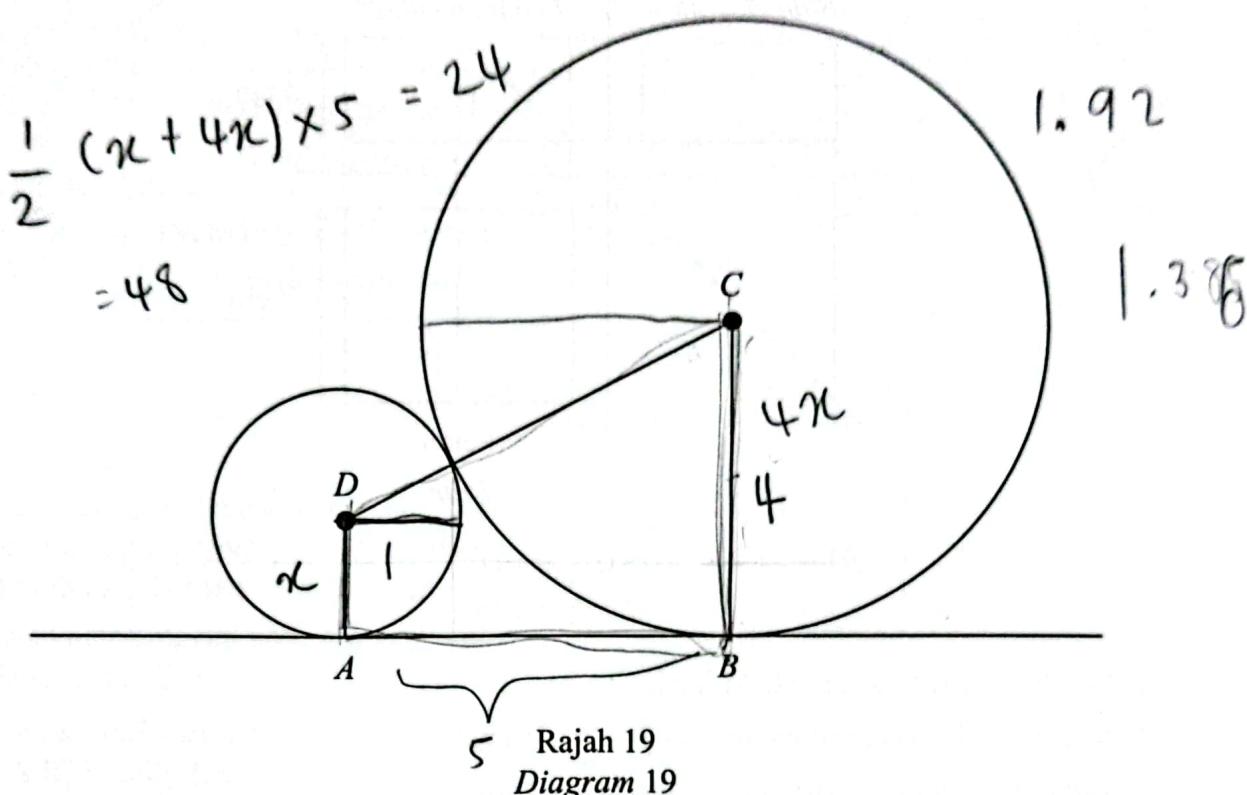
*Calculate the total surface area, in  $\text{cm}^2$ , of solid Y.*

- A 101
- B 145
- C 150
- D 192

$$\frac{1}{2} \times p \times L = 12$$

- 37 Rajah 19 menunjukkan dua bulatan yang masing-masing berpusat  $D$  dan  $C$ .  $AB$  ialah tangen sepunya bagi dua bulatan itu.

Diagram 19 shows two circles with centre  $D$  and  $C$  respectively.  $AB$  is the common tangent to the two circles.



Diberi nisbah panjang jejari  $AD$  kepada panjang jejari  $BC$  ialah  $1:4$ . Panjang jejari  $AD$  ialah  $x$  cm.

Hitungkan panjang  $BC$ , dalam cm, sekiranya luas trapezium  $ABCD$  ialah  $24 \text{ cm}^2$ . Bundarkan jawapan anda kepada integer terdekat.

Given the ratio of the length of the radius  $AD$  to the length of the radius  $BC$  is  $1:4$ . Length of radius  $AD$  is  $x$  cm.

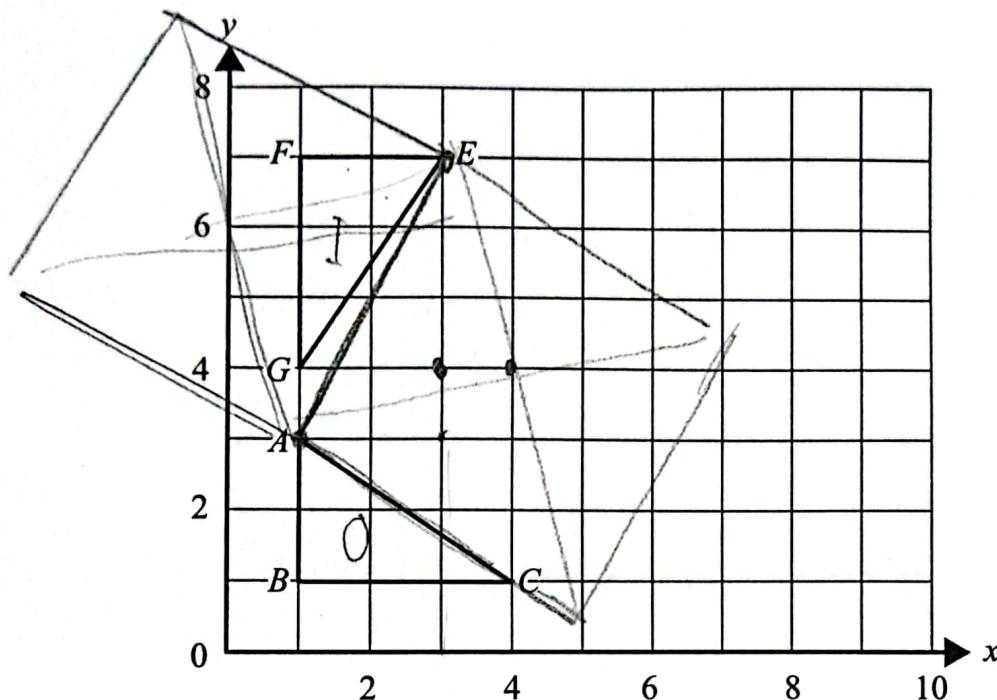
Calculate the length of  $BC$ , in cm, if the area of the trapezium  $ABCD$  is  $24 \text{ cm}^2$ . Round off your answer to the nearest integer.

- A 1.5
- B 2
- C 6
- D 6.2

$$\frac{1}{2} (\pi + 4\pi) \times 5\pi = 24$$

- 38 Rajah 20 menunjukkan dua buah segi tiga yang dilukis di atas satah Cartes. Diberi bahawa segi tiga  $EFG$  adalah imej kepada segi tiga  $ABC$  di bawah suatu transformasi  $M$ .

*Diagram 20 shows two triangles drawn on the Cartesian plane. Given that the triangle EFG is the image of the triangle ABC under a transformation M.*



Rajah 20  
Diagram 20

Nyatakan transformasi  $M$ .

*State the transformation of M.*

- A Putaran  $90^\circ$  ikut arah jam pada pusat  $(3, 3)$ .  
*A rotation of  $90^\circ$  clockwise at centre  $(3, 3)$ .*
- B Putaran  $90^\circ$  ikut lawan jam pada pusat  $(3, 4)$ .  
*A rotation of  $90^\circ$  anticlockwise at centre  $(3, 4)$ .*
- C Putaran  $90^\circ$  ikut arah jam pada pusat  $(4, 4)$ .  
*A rotation of  $90^\circ$  clockwise at centre  $(4, 4)$ .*
- D Putaran  $90^\circ$  ikut arah jam pada pusat  $(4, 3)$ .  
*A rotation of  $90^\circ$  clockwise at centre  $(4, 3)$ .*

- 39  $M$  ialah titik tengah bagi tembereng garis yang menyambungkan titik  $P (-2, -5)$  dan  $R (7, -2)$ . Tentukan koordinat  $M$ .
- M is the midpoint of the line segment joining the point  $P (-2, -5)$  and  $R (7, -2)$ . Determine the coordinate of  $M$ .*

- |   |  |     |
|---|--|-----|
| A | $\left(-\frac{9}{2}, \frac{3}{2}\right)$ | 2.5 |
| B | $\left(\frac{5}{2}, -\frac{7}{2}\right)$ | 5   |
| C | $\left(-\frac{7}{2}, \frac{5}{2}\right)$ | 2   |
| D | $\left(-\frac{9}{2}, \frac{5}{2}\right)$ |     |

- 40 Jadual 5 menunjukkan masa yang diambil oleh 50 orang murid untuk menamatkan suatu perlumbaan 100 meter.

*Table 5 shows the time taken by 50 students to complete a 100 metre race.*

Masa (s) <i>Time (s)</i>	8.6 – 9.5	9.6 – 10.5	10.6 – 11.5	11.6 – 12.5	12.6 – 13.5
Kekerapan longgokan <i>Cumulative frequency</i>	6	14	31	41	50

Jadual 5  
*Table 5*

Cari nilai varians.

*Find the value of variance.*

- |   |       |
|---|-------|
| A | 1.239 |
| B | 1.534 |
| C | 1.706 |
| D | 1.710 |

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**KERTAS PEPERIKSAAN TAMAT**