



SUCCESS



Matematik Tambahan

Modul berfokus

Penyelesaian segitiga

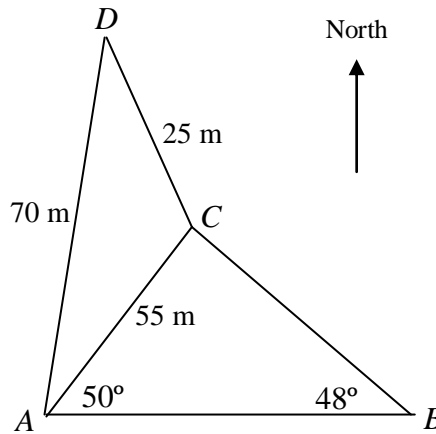
EXPERIENCE

is the name everyone give to their

MISTAKES

KERTAS 2

1. A, B, C dan D adalah empat titik mengufuk dengan B berada di timur A . Diberi $AC = 55$ m, $CD = 25$ m, $AD = 70$ m, $\angle CAB = 50^\circ$ dan $\angle ABC = 48^\circ$.
 A, B, C and D are four points on level ground with B due east of A . It is given that $AC = 55$ m, $CD = 25$ m, $AD = 70$ m, $\angle CAB = 50^\circ$ and $\angle ABC = 48^\circ$.



(a) Hitung
Calculate

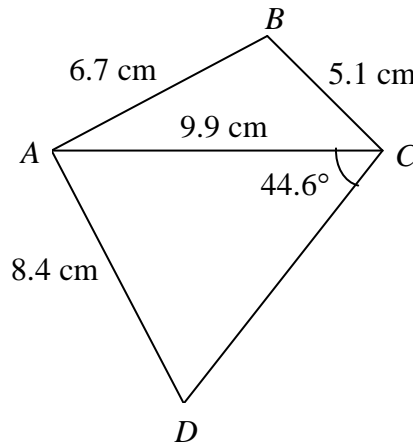
- (i) panjang AB ,
the length of AB ,
- (ii) $\angle CAD$,
- (iii) luas segi tiga ABC .
the area of triangle ABC .

[7 m / Aras S]

- (b) Seorang lelaki berjalan di sepanjang AB bermula di A sehingga sampai ke P yang sama jarak dari A dan C . Hitung jarak AP .
A man walks along AB from A until he reaches a point P which is equidistant from A and C . Calculate the distance AP .

[3 m / Aras T]

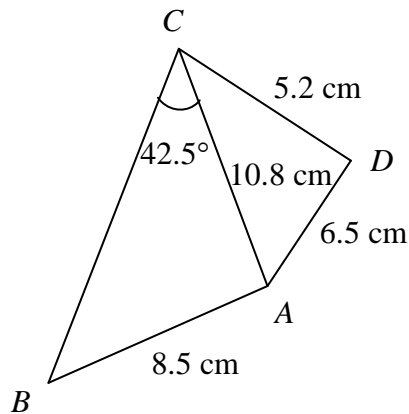
2. Rajah 2 menunjukkan segi empat $ABCD$ di mana $\angle ADC$ adalah tirus.
 Diagram 2 shows a quadrilateral $ABCD$ such that $\angle ADC$ is acute.



Rajah 2
 Diagram 2

- (a) Hitung
 Calculate
- (i) $\angle ADC$,
 - (ii) $\angle ABC$,
 - (iii) luas, dalam cm^2 , segi empat $ABCD$.
the area, in cm^2 , of quadrilateral $ABCD$.
- [8 m / Aras S]
- (b) Segitiga $A'C'D'$ mempunyai ukuran yang sama dengan segi tiga ACD , iaitu $A'C' = 9.9$ cm, $A'D' = 8.4$ cm dan $\angle A'C'D' = 44.6^\circ$, tetapi mempunyai bentuk yang berbeza dari segi tiga ACD .
A triangle $A'C'D'$ has the same measurements as those given for triangle ACD , that is, $A'C' = 9.9$ cm, $A'D' = 8.4$ cm and $\angle A'C'D' = 44.6^\circ$, but which is different in shape to triangle ACD .
- (i) Lakarkan segi tiga $A'C'D'$.
Sketch the triangle $A'C'D'$.
 - (ii) Nyatakan saiz bagi $\angle A'D'C$.
State the size of $\angle A'D'C$.
- [2 m / Aras S]

3. Rajah 3 menunjukkan segi empat $ABCD$ dengan keadaan $\angle ABC$ adalah tirus.
Diagram 3 shows a quadrilateral $ABCD$ such that $\angle ABC$ is acute.



Rajah 3
 Diagram 3

- (a) Hitung
Calculate

(i) $\angle ABC$,

(ii) $\angle ADC$,

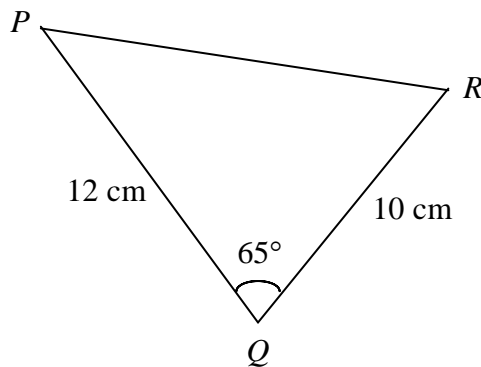
(iii) luas, dalam cm^2 , bagi segiempat $ABCD$.
the area, in cm^2 , of the quadrilateral $ABCD$.

[8 m / Aras S]

- (b) Segi tiga $A'B'C'$ mempunyai ukuran yang sama dengan segi tiga ABC tetapi berlainan bentuk dari segitiga ABC . Lakarkan segitiga $A'B'C'$.
A triangle $A'B'C'$ has the same measurements as those given for triangle ABC but it is different in shape to triangle ABC . Sketch the triangle $A'B'C'$.

[2 m / Aras S]

4. Rajah 4 menunjukkan segitiga PQR .
Diagram 4 shows a triangle PQR .

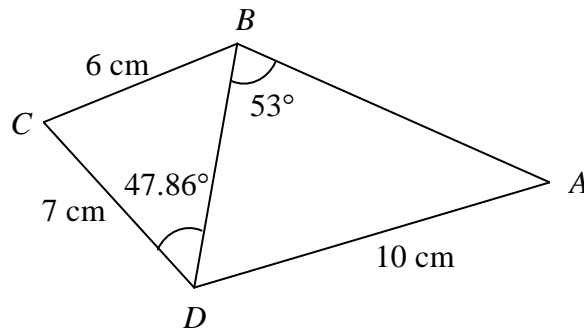


Rajah 4
Diagram 4

- (a) Hitung panjang, dalam cm, bagi PR .
Calculate the length, in cm, of PR .
- [2 m / Aras S]
- (b) Segi empat $PQRS$ kemudiannya dibina dengan PR sebagai pepenjuru, $\angle PRS = 30^\circ$ dan $PS = 8.2$ cm. Hitungkan dua nilai yang mungkin bagi $\angle PSR$.
A quadrilateral $PQRS$ is then formed so that PR is a diagonal, $\angle PRS = 30^\circ$ and $PS = 8.2$ cm. Calculate the two possible values of $\angle PSR$.
- [2 m / Aras T]
- (c) Dengan menggunakan sudut tirus bagi PSR dari (b), hitung
Using the acute angle PSR from (b), calculate
- (i) panjang, dalam cm, bagi RS ,
the length, in cm, of RS ,
- (ii) luas, dalam cm^2 , bagi segiempat $PQRS$.
the area, in cm^2 , of quadrilateral $PQRS$.

[6 m / Aras T]

5. Rajah 5 menunjukkan segi empat $ABCD$.
 Diagram 5 shows a quadrilateral $ABCD$.

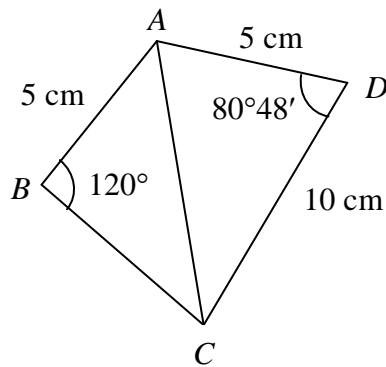


Rajah 5
 Diagram 5

Hitung
 Calculate

- (a) $\angle BCD$, [2 m / Aras S]
- (b) panjang, dalam cm, bagi BD ,
 the length, in cm, of BD , [2 m / Aras S]
- (c) $\angle ADB$, [3 m / Aras S]
- (d) luas, dalam cm^2 , bagi segi empat $ABCD$.
 the area, in cm^2 , of quadrilateral $ABCD$. [3 m / Aras S]

6. Rajah 6 menunjukkan segi empat $ABCD$.
 Diagram 6 shows quadrilateral $ABCD$.



Rajah 6
 Diagram 6

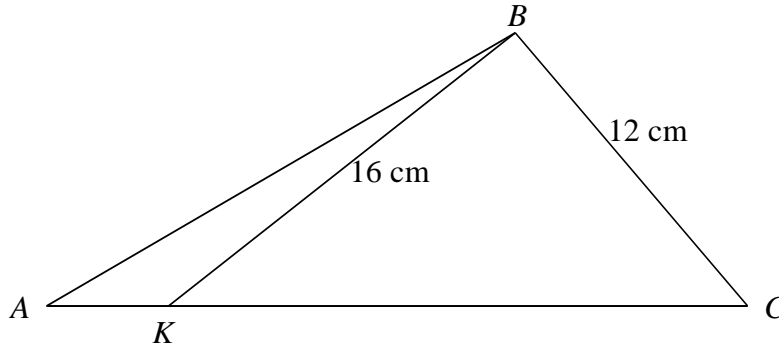
- (a) Hitung
 Calculate
- (i) panjang, dalam cm, bagi AC ,
 the length, in cm. of AC ,
 - (ii) $\angle ACB$.
- (b) Titik A' berada pada AC dengan keadaan $A'B = AB$.
 Point A' lies on AC such that $A'B = AB$.
- (i) Lakarkan $\Delta A'BC$.
 Sketch $\Delta A'BC$.
 - (ii) Hitungkan luas, dalam cm^2 , bagi $\Delta A'BC$.
 Calculate the area, in cm^2 , of $\Delta A'BC$.

[4 m / Aras S]

[6 m / Aras S]

7. Rajah 7 menunjukkan segi tiga ABC dengan titik A terletak pada KC . Diberi $BC = 12$ cm, $BK = 16$ cm, $\sin \angle AKB = \frac{3}{5}$, dan luas segi tiga $ABK = 24$ cm².

Diagram 7 shows a triangle ABC with point A lies on KC . Given $BC = 12$ cm, $BK = 16$ cm, $\sin \angle AKB = \frac{3}{5}$, and the area of triangle $ABK = 24$ cm².



Rajah 7
Diagram 7

- (a) Hitung panjang, dalam cm, bagi
Calculate the length, in cm, for

- (i) AK ,
(ii) AB .

[5 m / Aras T]

- (b) Dalam segi tiga BCK , panjang CK ialah x cm. Dengan menggunakan hukum kosinus, tunjukkan bahawa x memuaskan persamaan kuadratik $5x^2 - 128x + 560 = 0$.

In the triangle BCK , the length CK is x cm. By using cosine rule, show that x satisfies the quadratic equation $5x^2 - 128x + 560 = 0$.

[2 m / Aras T]

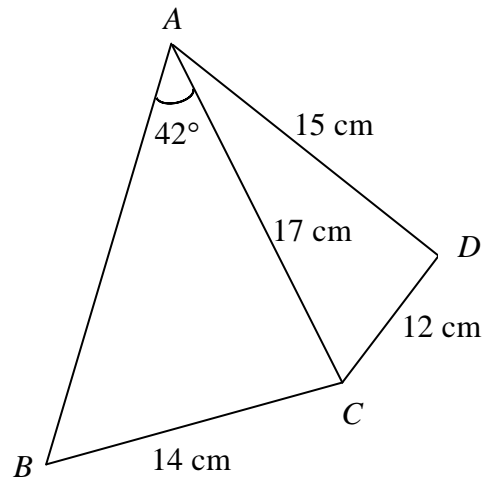
- (c) Segi tiga $B'C'K'$ mempunyai bentuk yang berlainan daripada segi tiga BCK dengan keadaan $BC = B'C'$, $B'K' = BK$ dan $\angle BKC = \angle B'K'C'$.
A triangle $B'C'K'$ has a different shape from triangle BCK such that $BC = B'C'$, $B'K' = BK$ and $\angle BKC = \angle B'K'C'$.

- (i) Lakarkan segi tiga $B'C'K'$.
Sketch triangle $B'C'K'$.

- (ii) Cari $\angle K'C'B'$.
Find $\angle K'C'B'$.

[3 m / Aras S]

8. Rajah 8 menunjukkan segiempat $ABCD$.
 Diagram 8 shows a quadrilateral $ABCD$.

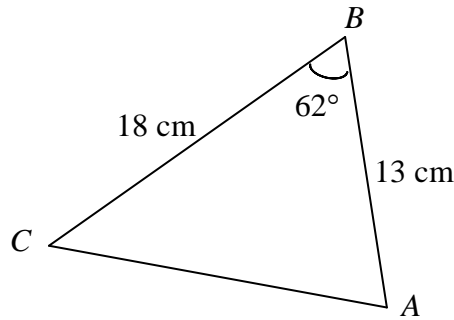


Rajah 8
 Diagram 8

Hitung
 Calculate

- (a) $\angle ABC$, [2 m / Aras S]
- (b) panjang, dalam cm, bagi AB ,
 the length, in cm, of AB , [3 m / Aras S]
- (c) $\angle CAD$, [2 m / Aras S]
- (d) luas, dalam cm^2 , segi empat $ABCD$.
 the area, in cm^2 , of quadrilateral $ABCD$. [3 m / Aras S]

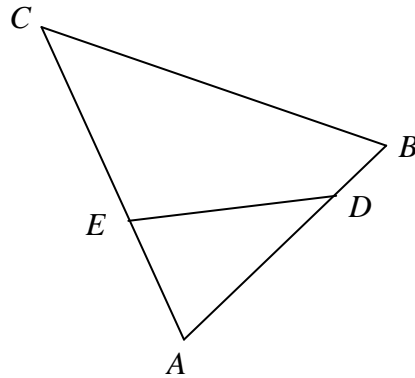
9. Rajah 9 menunjukkan segi tiga ABC .
 Diagram 9 shows a triangle ABC .



Rajah 9
 Diagram 9

- (a) Hitung panjang, dalam cm, bagi AC .
 Calculate the length, in cm, of AC .
 [2 m / Aras S]
- (b) Segi empat $ABCD$ dibina dengan keadaan AC adalah pepenjuru, $\angle ACD = 35^\circ$ dan $AD = 14$ cm. Hitung dua nilai yang mungkin bagi $\angle ADC$.
 A quadrilateral $ABCD$ is now form so that AC is the diagonal, $\angle ACD = 35^\circ$ and $AD = 14$ cm. Calculate the two possible values of $\angle ADC$.
 [3 m / Aras T]
- (c) Dengan menggunakan sudut dari (b), hitung
 By using the angles from (b), calculate
- (i) panjang, dalam cm, bagi CD ,
 the length, in cm, of CD ,
 - (ii) luas, dalam cm^2 , bagi segi empat $ABCD$.
 the area, in cm^2 , of the quadrilateral $ABCD$.
- [5 m / Aras T]

10. Rajah 10 menunjukkan segi tiga ABC dengan keadaan ADB dan AEC adalah garis lurus. *Diagram 10 shows a triangle ABC where ADB and AEC are straight lines.*



Rajah 10
Diagram 10

Diberi bahawa $AD = 7.2$ cm, $AE = 4.6$ cm, $BC = 10.7$ cm, $DE = 6.3$ cm dan $\angle ACB = 46^\circ$.

It is given that $AD = 7.2$ cm, $AE = 4.6$ cm, $BC = 10.7$ cm, $DE = 6.3$ cm and $\angle ACB = 46^\circ$.

- (a) Hitung
Calculate

- (i) $\angle BAC$,
(ii) panjang, dalam cm, bagi AC .
the length, in cm, of AC .

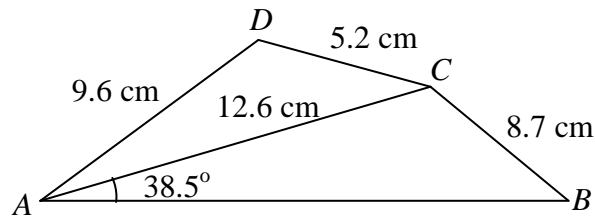
[4 m / Aras S]

- (b) Titik A' berada pada AC dengan keadaan $AB = A'B$.
Point A' lies on AC such that $AB = A'B$.

- (i) Lakarkan $\Delta A'BC$.
Sketch $\Delta A'BC$.
(ii) Hitungkan luas, dalam cm^2 , $\Delta A'BC$.
Calculate the area, in cm^2 , of $\Delta A'BC$.

[6 m / Aras S]

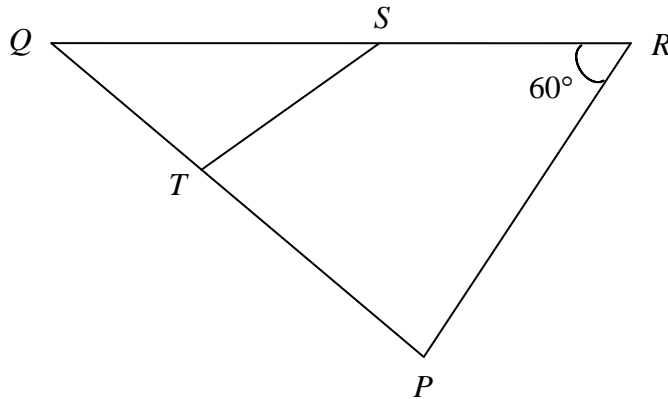
11. Rajah 11 menunjukkan segi empat $ABCD$ dengan keadaan $\angle ABC$ ialah sudut tirus.
 Diagram 11 shows a quadrilateral $ABCD$ where $\angle ABC$ is an acute angle.



Rajah 11
 Diagram 11

- (a) Hitung
 Calculate
- $\angle ABC$,
 - $\angle ADC$,
 - luas, dalam cm^2 , segi empat $ABCD$.
the area, in cm^2 , of quadrilateral $ABCD$.
- [7 m / Aras S]
- (b) Segi tiga $A'B'C'$ mempunyai ukuran yang sama dengan segi tiga ABC , di mana, $A'C' = 12.6$ cm, $C'B' = 8.7$ cm dan $\angle C'A'B' = 38.5^\circ$ tetapi mempunyai bentuk yang berbeza berbanding dengan segi tiga ABC dengan keadaan $A'C' = 12.6$ cm.
A triangle $A'B'C'$ has the same measurements as those given for triangle ABC , that is, $A'C' = 12.6$ cm.
- Lakarkan segitiga $A'B'C'$.
Sketch the triangle $A'B'C'$.
 - Hitung panjang, dalam cm, $A'B'$.
Calculate the length, in cm, of $A'B'$.
- [3 m / Aras S]

12. Rajah 12 menunjukkan segitiga PQR dengan keadaan QR dan T berada pada QP .
Diagram 12 shows triangle PQR such that S lies on QR and T lies on QP .

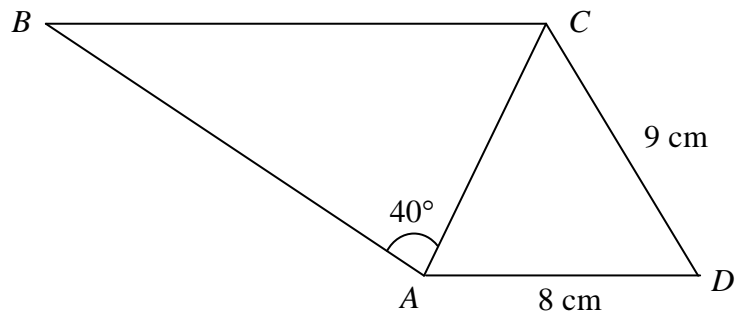


Rajah 12
Diagram 12

Diberi bahawa $SQ = 13$ cm, $QT = 10$ cm, $SR = 17$ cm, $TP = 18$ cm dan $\angle QRP = 60^\circ$.
It is given that $SQ = 13$ cm, $QT = 10$ cm, $SR = 17$ cm, $TP = 18$ cm and $\angle QRP = 60^\circ$.

- (a) Cari
Find
- (i) $\angle QPR$,
- (ii) panjang, dalam cm, bagi ST .
the length, in cm, of ST .
- [5 m / Aras S]
- (b) Cari luas, dalam cm^2 , segiempat $SRPT$.
Find the area, in cm^2 , of the quadrilateral $SRPT$.
- (c) Titik P' berada pada PQ dengan keadaan $P'R = PR$. Cari panjang, dalam cm, bagi $P'Q$.
A point P' lies on PQ such that $P'R = PR$. Find the length, in cm, of $P'Q$.
- [2 m / Aras S]

13. Rajah 13 menunjukkan segi empat $ABCD$.
 Diagram 13 shows quadrilateral $ABCD$.



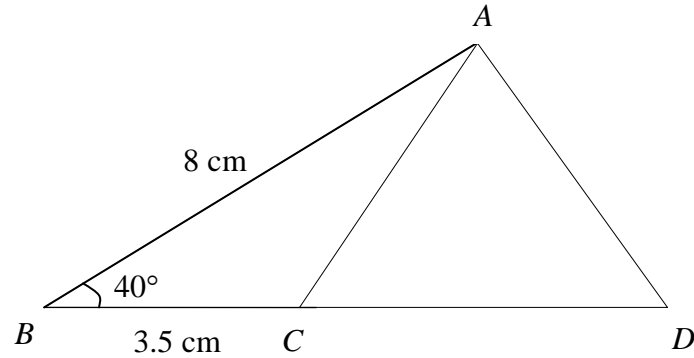
Rajah 13
 Diagram 13

Diberi bahawa BC dan AD adalah selari. Luas bagi segi tiga ACD ialah 30.18 cm^2 .
 Given that BC and AD are parallel. The area of triangle ACD is 30.18 cm^2 .

Cari
 Find

- (a) $\angle CDA$, [2 m / Aras S]
- (b) panjang, dalam cm, bagi AC ,
 the length, in cm, of AC , [2 m / Aras S]
- (c) $\angle ABC$, [3 m / Aras S]
- (d) luas, dalam cm^2 , segi tiga ABC .
 the area, in cm^2 , of the triangle ABC . [3 m / Aras T]

14. Rajah 14 menunjukkan segi tiga ABD . Titik C berada pada garis lurus BD dengan keadaan $BC = 3.5$ cm and $AC = AD$. Diberi bahawa $AB = 8$ cm dan $\angle ABC = 40^\circ$.
Diagram 14 shows a triangle ABD . Point C lies on the straight line BD such that $BC = 3.5$ cm and $AC = AD$. It is given $AB = 8$ cm and $\angle ABC = 40^\circ$.

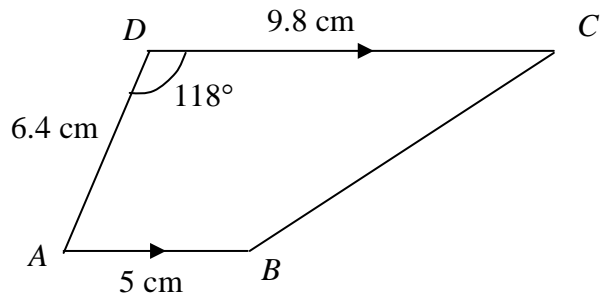


Rajah 14
 Diagram 14

Hitung
 Calculate

- (a) panjang AD ,
 the length of AD , [3 m / Aras S]
- (b) $\angle ACB$, [4 m / Aras S]
- (c) luas segi tiga ABD .
 the area of triangle ABD . [3 m / Aras T]

15. Rajah 15 menunjukkan trapezium $ABCD$ dengan keadaan AB dan DC adalah selari.
 Diagram 15 shows a trapezium $ABCD$ in which AB and DC are parallel.



Rajah 15
 Diagram 15

Diberi bahawa $AB = 5$ cm, $AD = 6.4$ cm, $DC = 9.8$ cm dan $\angle ADC = 118^\circ$.
 Given that $AB = 5$ cm, $AD = 6.4$ cm, $DC = 9.8$ cm and $\angle ADC = 118^\circ$.

Cari
 Find

- (a) panjang, dalam cm, bagi
 the length, in cm, for

- (i) AC ,
 (ii) BD ,

[4 m / Aras S]

- (b) $\angle ABD$,

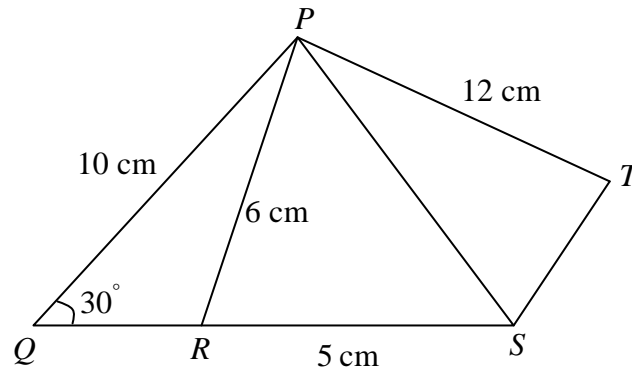
[2 m / Aras S]

- (c) luas, dalam cm^2 , segi tiga BCD .
 the area, in cm^2 , of triangle BCD .

[3 m / Aras S]

16. Rajah 16 menunjukkan sisiempat $PQST$. QRS ialah garis lurus dan $\angle PRQ$ adalah cakah.

Diagram 16 shows quadrilateral $PQST$. QRS is a straight line and $\angle PRQ$ is obtuse.



Rajah 16
Diagram 16

Diberi bahawa luas $\Delta PST = 30$ cm².

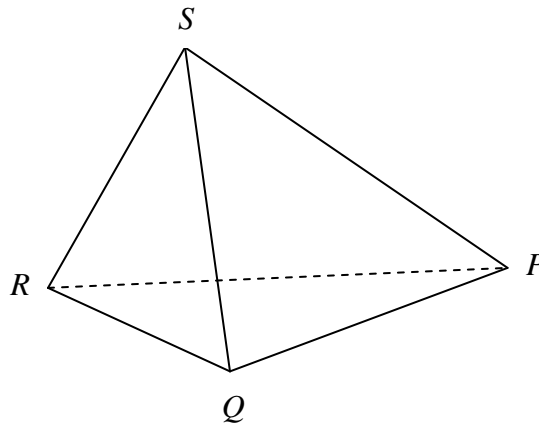
It is given that the area of the $\Delta PST = 30$ cm².

Hitung

Calculate

- (a) $\angle PRQ$, [2 m / Aras S]
- (b) panjang, dalam cm, bagi PS ,
the length, in cm, of PS , [3 m / Aras S]
- (c) $\angle SPT$, [2 m / Aras S]
- (d) luas, dalam cm², bagi sisi empat $PRST$.
the area, in cm², of quadrilateral $PRST$. [3 m / Aras S]

17. Rajah 17 menunjukkan piramid $PQRS$ dengan segitiga PQR sebagai satah mengufuk.
 Diagram 17 shows a pyramid $PQRS$ with triangle PQR as the horizontal base.



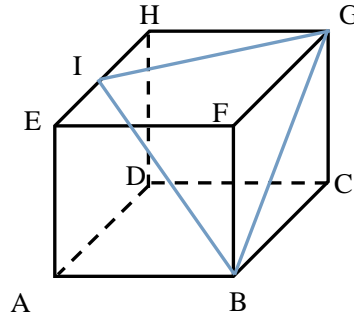
Rajah 17
 Diagram 17

S ialah puncak bagi piramid itu dan sudut antara satah condong QRS dengan dasar PQR ialah 50° . Diberi $PQ = PR = 5.6$ cm and $SQ = SR = 4.2$ cm.
 S is the vertex of the pyramid and the angle between the inclined plane QRS and the base PQR is 50° . Given that $PQ = PR = 5.6$ cm and $SQ = SR = 4.2$ cm.

Hitungkan
 Calculate

- (a) panjang RQ jika luas dasar PQR ialah 12.4 cm²,
 the length of RQ if the area of the base PQR is 12.4 cm², [3 m / Aras T]
- (b) panjang SP ,
 the length of SP , [3 m / Aras S]
- (c) luas segitiga PQS .
 the area of the triangle PQS . [4 m / Aras S]

18. Rajah 18 menunjukkan sebuah kubus dengan sisi 12 cm yang terletak pada dasar $ABCD$. AE ialah sisi menegak dan I ialah titik tengah bagi EH .
 Diagram 18 shows a cube of side 12 cm which stands on its horizontal base $ABCD$. AE is a vertical edge and I is the midpoint of EH .



Rajah 18
 Diagram 18

Cari
 Find

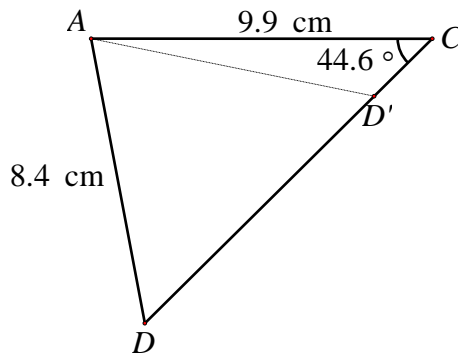
- (a) $\angle BGI$, [6 m / Aras T]
- (b) $\sin \angle GIB$ [2 m / Aras S]
- (c) luas bagi ΔBGI . [2 m /
area of ΔBGI Aras S]

JAWAPAN : MODUL 10 : BAB : PENYELESAIAN SEGITIGA

KERTAS 2

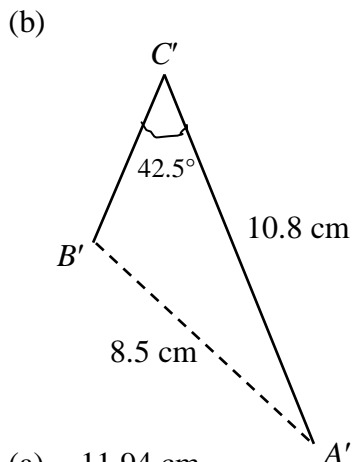
1. (a) (i) 73.29 m
 (ii) 18.55°
 (iii) 1543.94 m^2
- (b) 42.78 m

2. (a) (i) 55.85°
 (ii) 113.37°
 (iii) 56.573 cm^2



- (b) (i)
 (ii) 124.15°

3. (a) (i) 59.14°
 (ii) 134.46°
 (ii) 57.02 cm^2



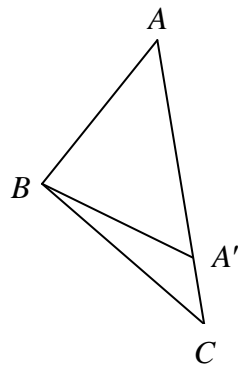
4. (a) 11.94 cm
 (b) $46.72^\circ, 133.28^\circ$
 (c) (i) 15.96 cm

(ii) 102.02 cm^2

5. (a) $72^\circ 15'$
 (b) 7.706 cm
 (c) $89^\circ 1'$
 (d) 58.52 cm^2

6. (a) (i) 10.44
 (ii) $24^\circ 30'$

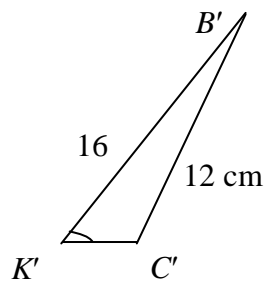
- (b) (i)



(ii) 3.3385 cm^2

7. (a) (i) 5 cm
 (ii) 20.22 cm

- (c) (i)



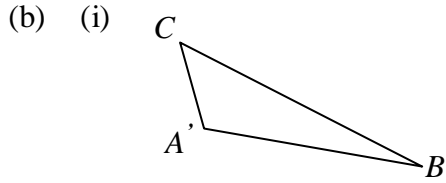
(ii) 126.87°

8. (a) 54.34°
 (b) 20.79 cm
 (c) 43.49°
 (d) 206 cm^2

9. (a) 16.53 cm
 (b) $42.63^\circ, 137.37^\circ$
 (c) (i) $3.24 \text{ cm}, 23.84 \text{ cm}$

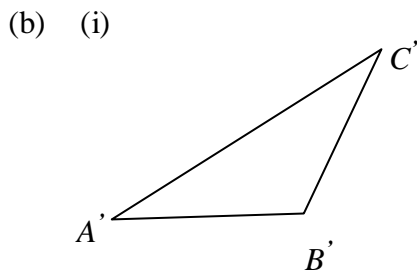
(ii) 216.32 cm^2 , 118.66 cm^2

10. (a) (i) 59.81°
 (ii) 11.91 cm



(ii) 11.37 cm^2

11. (a) (i) 64.37°
 (ii) 113.34°
 (iii) 76.35 cm^2



(ii) 6.098 cm

12. (a) (i) 68.11°
 (ii) 10.42 cm

(b) 279.33 cm^2

(c) 9.031 cm

13. (a) 56.96°
 (b) 8.15 cm
 (c) 72.29°
 (d) 20.75 cm^2

14. (a) 5.775 cm
 (b) 117.07°
 (c) 22.51 cm^2

15. (a) (i) 13.996 cm
(ii) 5.993 cm
- (b) 70.55°
(c) 27.689 cm^2
16. (a) 123.56°
(b) 5.275 cm
(c) 71.42°
(d) 42.5 cm^2
17. (a) 4.933 cm
(b) 3.855 cm
(c) 8.091 cm^2
18. (a) 83.13°
(b) 0.7563
(c) 91.32 cm^2