Matematik Tambahan

Modul berfokus

Sukatan Membulat

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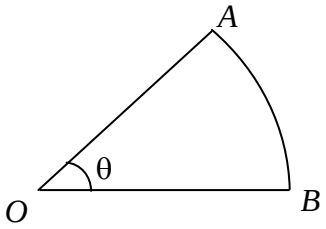
KERTAS 1

1. Rajah 1 menunjukkan sektor AOB berpusat di O.
Diagram 1 shows a sector AOB with centre O .

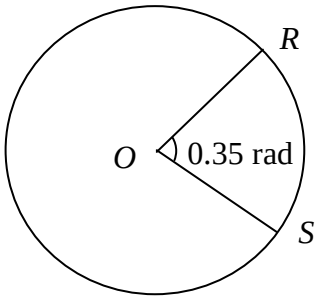


Rajah 1 / *Diagram 1*

Panjang lengkok AB ialah 7.5 cm dan perimeter sektor AOB ialah 25 cm. Cari nilai θ dalam radian.
The length of the arc AB is 7.5 cm and the perimeter of the sector AOB is 25 cm. Find the value of θ ,in radian.

[3 m / Aras S]

2. Rajah 2 menunjukkan bulatan berpusat di O.
Diagram 2 shows a circle with centre O.

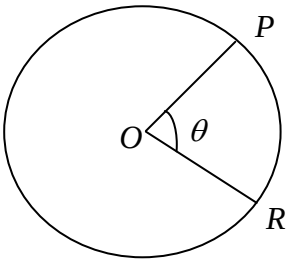


Rajah 2 / *Diagram 2*

Diberi panjang lengkok major RS ialah 45 cm, cari panjang jejari , dalam cm.
Given that the length of the major arc RS is 45 cm , find the length , in cm , of the radius.
(Guna / Use $\pi = 3.142$)

[3 m / Aras S]

3. Rajah 3 menunjukkan bulatan berpusat di O.
Diagram 3 shows a circle with centre O .



Rajah 3 / Diagram 3

Panjang lengkok minor ialah 15 cm dan sudut sektor major POR ialah 280^o .
Guna $\pi = 3.142$, cari
The length of the minor arc is 15 cm and the angle of the major sector POR is 280^o .
Use $\pi = 3.142$, find

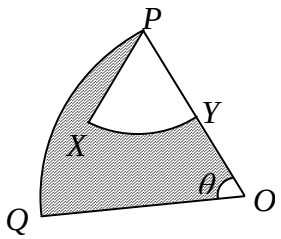
(a) nilai θ dalam radian,
(Berikan jawapan anda betul kepada 4 angka bererti)
the value of θ , in radian,(Give your answer correct to four significant figures)

[1 m / Aras R]

(b) panjang jejari bulatan itu dalam cm.
the length, in cm, of the radius of the circle .

[2 m / Aras S]

4. Rajah 4 menunjukkan sektor OPQ berpusat di O dan sektor PXY berpusat di P.
Diagram 4 shows sector OPQ with centre O and sector PXY with centre P .



Rajah 4 / *Diagram*

Diberi bahawa OQ = 20 cm, PY = 8cm, $\angle XPY$ = 1.1 radian dan panjang lengkok PQ =14 cm. Hitung
Given that OQ = 20 cm , PY = 8 cm , $\angle XPY$ = 1.1 radians and the length of arc PQ = 14cm. Calculate

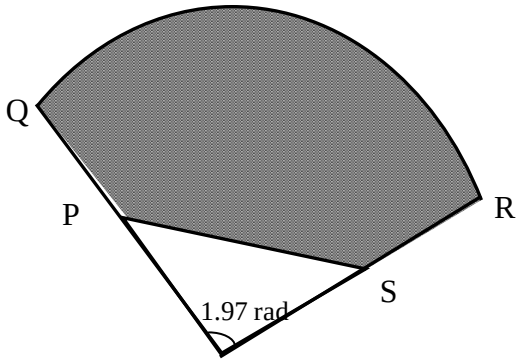
(a) nilai θ dalam radian,
the value of θ, in radian ,

[1 m / Aras R]

(b) luas dalam, cm^2 ,kawasan berlorek.
the area, in cm^2, of the shaded region .

[3 m / Aras S]

5. Rajah 5 menunjukkan sektor QOR berpusat di O. Diberi PS = 10 cm dan *QP = PO = OS = SR* = 6 cm.
Diagram 5 shows a sector QOR of a circle with centre O. It is given that PS = 10 cm and QP = PO = OS = SR = 6 cm.



Rajah 5 / *Diagram 5*

Cari */ Find*

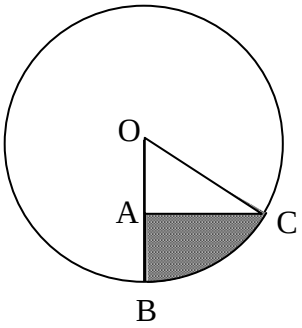
(a) panjang, dalam cm, lengkok QR,
the length, in cm, of the arc QR,

[1 m / Aras R]

(b) luas kawasan berlorek dalam cm^2.
the area, in cm^2, of the shaded region

[3 m / Aras S]

6. Rajah 6 menunjukkan bulatan berpusat di O dan berjejari 12 cm. Diberi bahawa titik-titik A, B dan C yang mana OA = AB dan $\angle OAC = 90^o$.
Diagram 6 shows a circle with centre O and radius 12 cm. Given that A, B and C are points such that OA = AB and $\angle OAC = 90^o$.
[Guna / *Use* $\pi = 3.142$]



Rajah 6 / *Diagram 6*

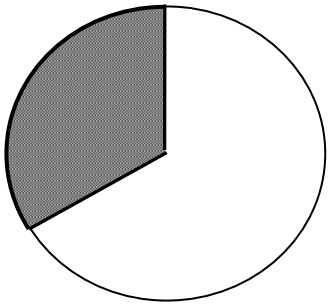
Cari / *find*

(a) $\angle BOC$, dalam radian,
$\angle BOC$, *in radian,* [1 m / Aras R]

(b) luas , dalam cm^2 , kawasan berwarna.
the area, in cm^2, of the coloured region.

[3 m / Aras S]

7. Rajah 7 menunjukkan bulatan berjejari 2.5 cm. Luas kawasan berlorek ialah 6.25 cm^2.
Diagram 7 shows a circle of radius 2.5 cm. The area of the shaded region is 6.25 cm^2.

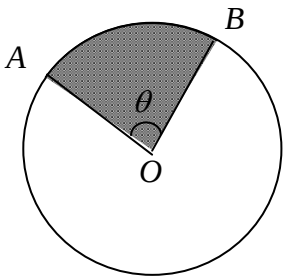


Rajah 7 / *Diagram 7*

Hitung perimeter kawasan berlorek.
Calculate the perimeter of the shaded region.

[4 m / Aras T]

8. Rajah 8 menunjukkan bulatan berpusat di O.
Diagram 8 shows a circle with centre O.



Rajah 8 / *Diagram 8*

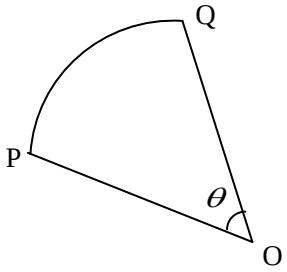
Jejari bulatan ialah 6 cm, dan luas sektor minor OAB ialah 28 cm^2. Dengan menggunakan
$\pi = 3.142$, cari
The radius of the circle is 6 cm, and the area of the minor sector OAB is 28 cm^2. Using
$\pi = 3.142$, find

(a) nilai θ, dalam radian,
(Berikan jawapan anda betul kepada 4 angka bererti)
the value of θ, in radian,
(Give your answer correct to 4 significant figures.) [2 m / Aras S]

(b) Seterusnya, panjang lengkok major OAB, dalam cm.
hence, the length of the major arc OAB, in cm. [2 m / Aras S]

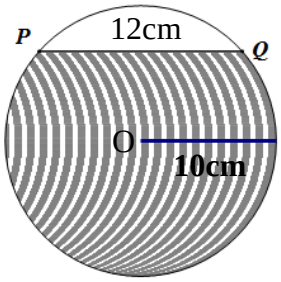
9. Rajah menunjukkan sektor POQ berpusat di O. Perimeter sektor POQ ialah 34 cm. Diberi bahawa jejari sektor itu ialah 11 cm, cari nilai θ dalam radian.
The diagram shows a sector POQ with centre O. The perimeter of the sector POQ is 34 cm. Given that the radius of the sector is 11 cm, find the value of θ in radian.

[2 m / Aras R]



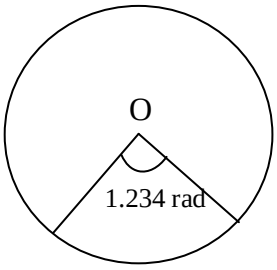
10. Rajah 9 menunjukkan tembereng major sebuah bulatan berpusat di O dan berjejari 10 cm. Perentas *PQ* panjangnya 12cm. Hitungkan panjang lengkok minor *PQ*.
Diagram 9 shows a major segment of a circle with centre O and radius 10cm. The cord PQ is of length 12cm. Calculate length of minor arc PQ.

[4 m /Aras S]



Rajah 9 / *Diagram 9*

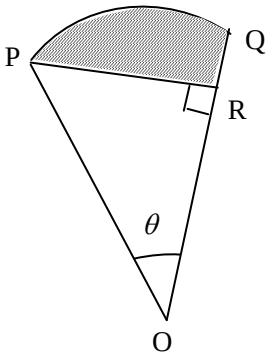
11. Rajah di bawah menunjukkan sebuah bulatan berpusat di O.
The diagram below shows a circle with centre O.



Diberi bahawa luas sektor major ialah 149 cm^2. Cari panjang jejari, dalam cm.
Given that the area of the major sector is 149 cm^2. Find the length, in cm, of the radius.

[3 m / Aras S]

12. Rajah menunjukkan sektor OPQ berpusat di O. Diberi bahawa RQ = 2 cm dan PO =17cm.
The diagram shows the sector OPQ with centre O. Given that RQ = 2 cm and PO = 17cm.

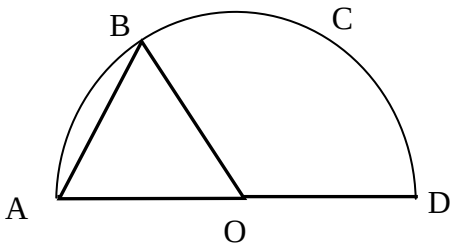


Hitung / *Calculate*

(a) nilai θ ,dalam radian,
the value of θ, in radian, [1 m / Aras R]

(b) luas kawasan berlorek.
the area of the shaded region. [2 m / Aras S]

13. Rajah di bawah menunjukkan separuh bulatan ABCD berpusat di O.
The following diagram shows a semicircle ABCD, centre O.

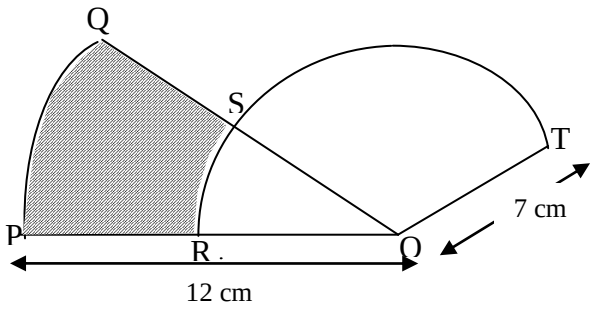


Diberi bahawa AD = 16 cm dan panjang lengkok AB ialah 6 cm. Cari
Given that AD = 16 cm and the length of arc AB is 6 cm. Find

(a) nilai $\angle BOD$ dalam radian,
the value of $\angle BOD$ in radian, [1 m / Aras R]

(b) luas sector OBCD.
the area of sector OBCD. [3 m / Aras S]

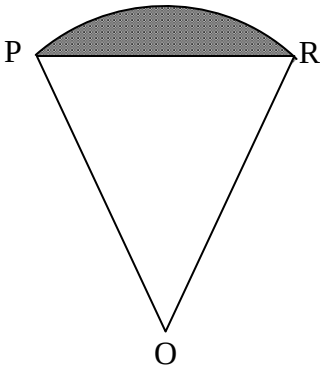
14. Rajah di bawah menunjukkan 2 lengkok bulatan , PQ dan RST berpusat di O dan jejari masing-masing OP dan OR.
The diagram below shows two arcs, PQ and RST of two circles, centre O and radius OP and OR respectively.



Diberi bahawa $\angle POQ : \angle ROT = 2 : 5$, dan $\angle SOT = 1.8$ *rad* ,Cari luas kawasan berlorek.
Given that $\angle POQ : \angle ROT = 2 : 5$ *and* $\angle SOT = 1.8$ *rad , Find the area of the shaded region.*

[4 m / Aras T]

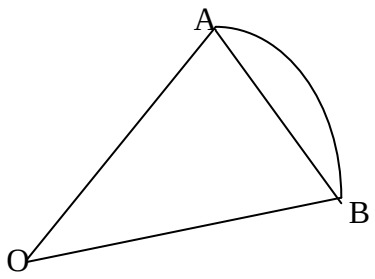
15. Rajah di bawah menunjukkan sektor POR berpusat di O dengan jejari 13 cm.
The following diagram shows the sector POR, centre O with radius 13 cm.



Diberi bahawa $\angle POR = 70^\circ$. Cari luas kawasan berlorek.
Given that $\angle POR = 70^\circ$ *. Find the area of the shaded region.*

[3 m / Aras S]

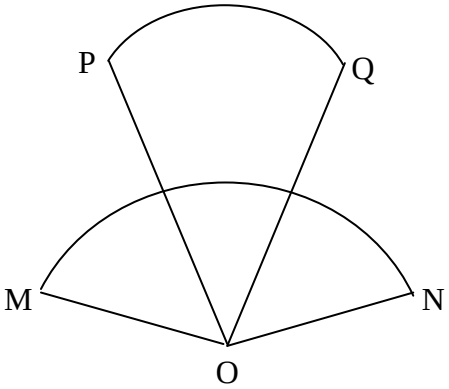
16. Rajah di bawah menunjukkan sektor AOB berpusat di O. Panjang jejari ialah 2 kali ganda panjang lengkok AB dan OB = 10 cm.
The following diagram shows a sector AOB with centre O. The length of the radius is twice the length of the arc AB and OB = 10 cm .



Cari panjang perentas AB.
Find the length of the chord AB.

[3 m / Aras S]

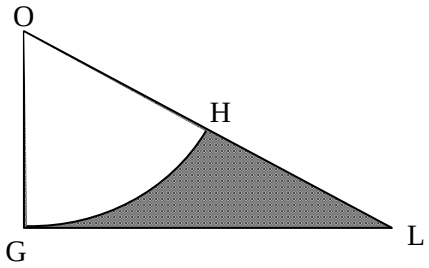
17. Rajah di bawah menunjukkan 2 sektor bulatan , OMN dan OPQ berpusat di O.
The diagram below shows the sectors OMN and OPQ of two circles with centre O.



Diberi bahawa $\angle POQ = 0.545$rad, OP = 2 OM dan nisbah panjang lengkok PQ kepada panjang lengkok MN ialah 2 : 5, hitung $\angle MON$ dalam darjah dan minit.
Given that $\angle POQ = 0.545$rad, OP = 2 OM and the ratio arc length of PQ to arc length of MN is 2:5, Calculate $\angle MON$, in degree and minute.

[3 m / Aras S]

18. Rajah di bawah menunjukkan sektor berpusat di O. GL ialah tangen kepada bulatan di titik G dan OHL ialah garis lurus.
The diagram below shows a sector with the centre O. GL is the tangent to the circle at the point G and OHL is a straight line.



Diberi bahawa luas ΔOGL ialah 21 cm^2 dan GL = 12 cm, hitung
Given that the area of ΔOGL *is 21* cm^2 *and GL = 12 cm, calculate*

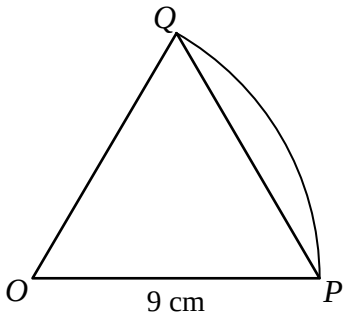
(a) $\angle GOL$ dalam radian ,
$\angle GOL$ *in radian,*

[1 m / Aras R]

(b) luas kawasan berlorek.
the area of the shaded region.

[2 m / Aras S]

19. Rajah 10 menunjukkan sebuah sektor bulatan OPQ berpusat O.
Diagram 10 shows a sector of the circle OPQ, centre O.

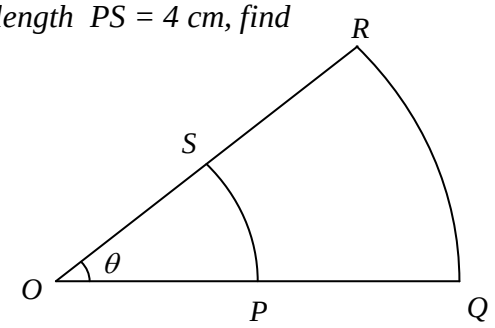


Rajah 10 / *Diagram 10*

Diberi OP = PQ, hitung panjang lengkok PQ.
Given that OP = PQ, calculate the arc length of PQ.

[2 m / Aras R]

20. Rajah di bawah menunjukkan dua lengkok PS dan QR berpusat O. Diberi OP=PQ=5 cm
dan panjang lengkok PS = 4 cm, cari
The diagram below shows two arcs PS and QR , centre O. Given that OP = PQ = 5 cm and the arc length PS = 4 cm, find



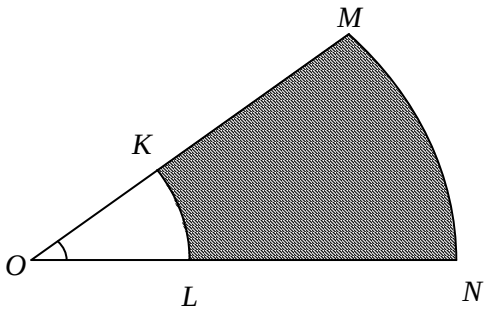
(a) nilai θ dalam radian,
the value of θ in radian,

[1 m / Aras R]

(b) perimeter PQRS.
the perimeter of PQRS.

[2 m / Aras S]

21.

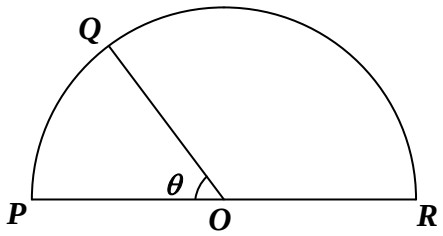


Rajah di atas menunjukkan dua sektor bulatan OMN dan OKL yang masing-masing berjejari 9 cm dan 3 cm. Carikan nisbah luas kawasan yang berlorek kepada luas sektor OKL.

The diagram above shows two sectors OMN and OKL with radius 9 cm and 3 cm respectively. Find the ratio of the shaded region to the area of the sector OKL.

[4 m / Aras T]

22.



Rajah di atas menunjukkan sebuah semi bulatan berpusat O dengan diameter POR = 8 cm.
Diberi panjang lengkok PQ ialah 3.87 cm, hitungkan
The diagram above shows a semi circle with centre O and diameter POR = 8 cm.
Given that the arc length of PQ is 3.87 cm, calculate

(Use/*Gunakan* $\pi = 3{\cdot}142$)

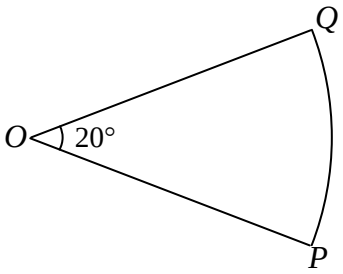
(a) nilai θ dalam radian,
the value of θ in radian,

[2 m / Aras S]

(b) luas sektor OQR.
the area of sector OQR.

[2 m / Aras S]

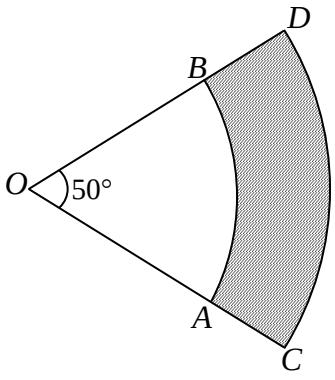
23.



Rajah di atas menunjukkan sebuah sektor bulatan OPQ berpusat di O. Diberi panjang lengkok PQ adalah 2.5 cm, cari panjang PQ.
The diagram above shows a sector OPQ of a circle, centre O. Given that the arc length of PQ is 2.5 cm, find the length of PQ.

[3 m / Aras S]

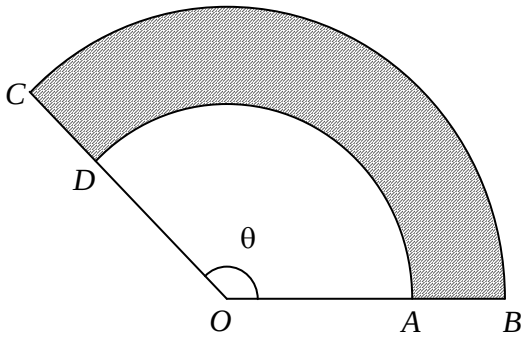
24.



Rajah di atas menunjukkan sektor-sektor bulatan OAB dan OCD berpusat O. Diberi OB = 4 cm dan BD = 3 cm, cari luas kawasan berlorek.
The diagram above shows two sectors OAB and OCD of two circles, centre O. Given that OB = 4 cm and BD = 3 cm, find the area of the shaded region.

[3 m / Aras S]

25. Rajah 11 menunjukkan sektor DOA dan sektor COB yang berpusat O.
Diagram 11 shows a sector DOA and a sector COB with centre O.

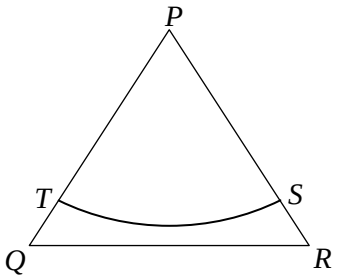


Rajah 11 / *Diagram11*

Diberi OA = 8 cm, OA : OB = 2 : 3 dan $\theta = \frac{3}{4}\pi$ rad. Cari luas kawasan berlorek Dalam sebutan π.
Given that OA = 8 cm, OA : OB = 2 : 3 and $\theta = \frac{3}{4}\pi$ *rad. Find the area of the shaded region in terms of* π.

[3 m / Aras S]

26. Rajah 12 menunjukkan segi tiga sama PQR dan sektor PTS berpusat P.
Diagram 12 shows the equilateral triangle PQR and the sector PTS with centre P.

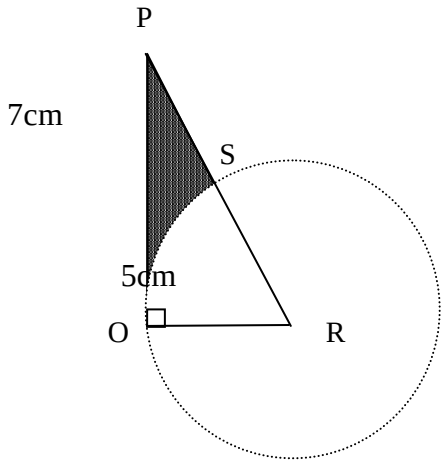


Rajah 12 / *Diagram*

Diberi PT = 10 cm. Dengan menggunakan π = 3. 142, cari luas sektor PTS.
Given that PT = 10 cm. Using π = 3. 142, find the area of the sector PTS.

[3 m / Aras S]

27. Rajah menunjukkan segitiga bersudut tegak POR dan sektor ROS dalam bulatan berpusat di R.
Diagram shows a right angle triangle POR and a sector ROS in a circle with centre R.
(Guna/Use π = 3.142)



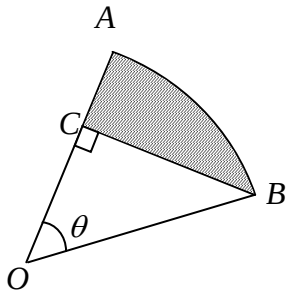
Cari / *Find,*

(a) $\angle ORS$, dalam radian,
$\angle ORS$, *in radian,* [1 m / Aras R]

(b) perimeter kawasan berlorek.
perimeter of shaded region. [3 m / Aras S]

KERTAS 2

1. Rajah 1 menunjukkan sektor AOB berpusat di O dengan jejarinya 15 cm. Titik C berada di atas OA dengan OC : OA = 3 : 5.
Diagram 1 shows the sectors AOB, centre O with radius 15 cm. The point C on OA is such that OC : OA = 3 : 5 .



Rajah 1 / *Diagram 1*

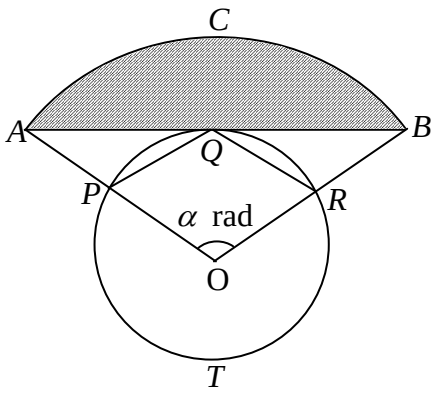
Hitung/ *Calculate*

(a) nilai θ , dalam radian,
the value of θ, in radia, [3 m / Aras S]

(b) luas kawasan berlorek, dalam cm^2 .
the area of the shaded region, in cm^2 . [4 m / Aras T]

2. Rajah 2 menunjukkan sebuah bulatan PQRT, berpusat di O dan berjejari 10 cm. AQB ialah tangen kepada bulatan itu di Q. Garis lurus, AO dan BO, masing-masing bersilang pada P dan R. OPQR ialah sebuah rombus. ACB ialah lengkok bulatan itu berpusat di O.

Diagram 2 shows a circle PQRT , centre O and radius 10 cm. AQB is a tangent to the circle at Q. The straight lines, AO and BO, intersect the circle at P and R respectively. OPQR is a rhombus. ACB is an arc of a circle, centre O.



Rajah 2 / *Diagram 2*

Hitung */ Calculate*

(a) sudut α , dalam sebutan π,
the angle α, in terms of π,

[2 m / Aras S]

(b) panjang, dalam cm, lengkok ACB
the length, in cm, of the arc ACB,

[4 m / Aras T]

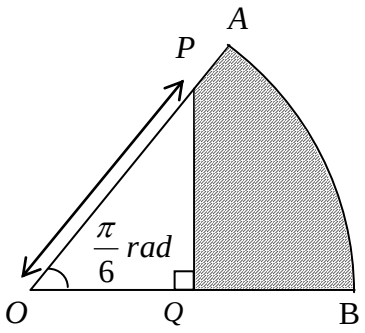
(c) luas, dalam cm^2 kawasan berlorek
the area, in cm^2, of the shaded region

[4 m / Aras T]

3. Rajah 3 menunjukkan sektor AOB bagi sebuah bulatan, berpusat di O. Titik P terletak di atas OA, titik Q terletak di atas OB dan PQ adalah berserenjang pada garis OB.

Panjang OP ialah 9 cm dan $\angle AOB = \frac{\pi}{6} rad$.

Diagram 3 shows a sector AOB of a circle , centre O. The point P lies on OA , the point Q lies on OB and PQ is perpendicular to OB. The length of OP is 9 cm and $\angle AOB = \frac{\pi}{6} rad$.



Rajah 3 / *Diagram 3*

Diberi bahawa OP : OA = 3 : 5
It is given that OP: OA= 3 : 5 .

(Using $\pi = 3.142$)

Hitung */ Calculate*

(a) panjang, dalam cm , PA,
the length, in cm, of PA,

[1 m / Aras R]

(b) perimeter, dalam cm, kawasan berlorek,
the perimeter, in cm, of the shaded region,

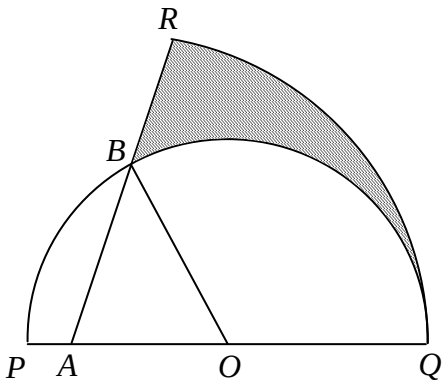
[5 m / Aras T]

(c) luas, dalam cm^2, kawasan berlorek.
the area, in cm^2*, of the shaded region.*

[4 m / Aras T]

4. Dalam rajah 4, PBQ ialah separuh bulatan berpusat di O dan mempunyai jejari 10m. RAQ ialah sektor bulatan berpusat di A dan mempunyai jejari 16m.

In Diagram 4, PBQ is a semicircle with centre O and has a radius of 10 m. RAQ is a sector of a circle with centre A and has a radius of 16 m .



Rajah 4 / *Diagram 4*

Diberi bahawa AB = 10m dan $\angle BOQ$ = 1.876 radian. [Guna π = 3.142].

It is given that AB = 10 m and $\angle BOQ$ = 1.876 radians. [Use π = 3.142].

Hitung / *Calculate*

(a) luas, dalam m^2, sector BOQ,
the area , in m^2 , of sector BOQ,

[2 m / Aras R]

(b) perimeter, dalam m, kawasan berlorek,
the perimeter, in m , of the shaded region ,

[4 m / Aras T]

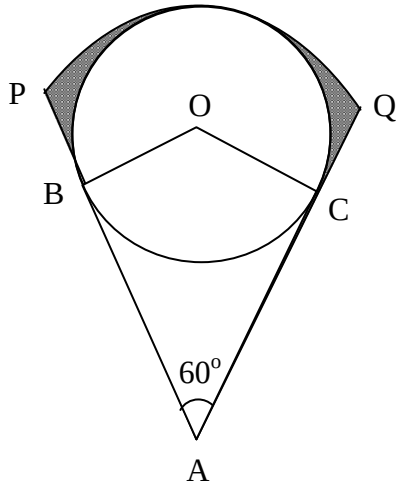
(c) luas, dalam m^2, kawasan berlorek,
the area , in m^2 , of the shaded region .

[4 m / Aras T]

5. Rajah 5 menunjukkan sebuah bulatan, berpusat di O dan berjejari 20cm. Garis lurus, AP dan AQ masing-masing ialah tangen kepada bulatan itu di titik B dan titik C.

Diagram 5 shows a circle, centre O and radius 20 cm inscribed in a sector PAQ of a circle, centre A. The straight lines, AP and AQ, are tangents to the circle at point B and point C, respectively.

[Use π = 3.142]



Rajah 5 / *Diagram 5*

Hitung / *Calculate*

(a) panjang , dalam cm, lengkok PQ,
the length, in cm, of the arc PQ,

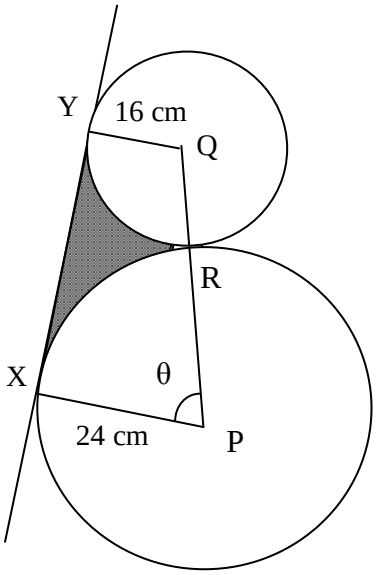
[5 m / Aras T]

(b) luas, dalam cm^2, kawasan berlorek.
the area, in cm^2, of the shaded region.

[5 m / Aras T]

6. Rajah 6 menunjukkan dua bulatan. Bulatan yang besar berpusat di P dan berjejari 24cm. Bulatan yang kecil berpusat di Q dan berjejari 16cm. Kedua-dua bulatan itu bersentuhan di pusat R. Garis lurus XY ialah tangen kepada bulatan itu di titik X dan Y.

Diagram 6 shows two circles. The larger circle has centre P and radius 24 cm. The smaller circle has centre Q and radius 16 cm. The circles touch at point R. The straight line XY is a common tangent to the circles at point X and Y.
[Guna / *Use* $\pi = 3.142$]



Rajah 6 / *Diagram 6*

Diberi bahawa $\angle XPQ = \theta$ radian,
Given that $\angle XPQ = \theta$ *radians,*

(a) tunjukkan bahawa $\theta = 1.37$ (kepada dua tempat perpuluhan),
show that $\theta = 1.37$ *(to two decimals places),*

[2 m / Aras S]

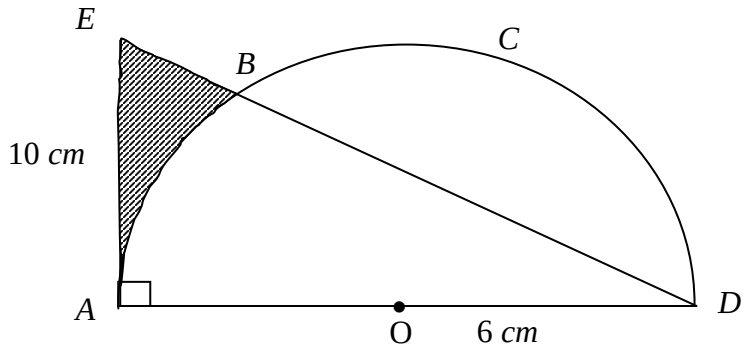
(b) hitung panjang, dalam cm, lengkok minor YR,
calculate the length, in cm, of the minor arc YR,

[3 m / Aras S]

(c) hitung luas, dalam in cm^2, kawasan berwarna.
calculate the area, in cm^2*, of the coloured region.*

[5 m / Aras T]

7 Rajah 7 menunjukkan separuh bulatan OABCD berpusat di O dan segitiga bersudut tepat ADE.
Diagram 7 shows a semicircle OABCD with centre O and a right angled triangle ADE.



Rajah 7 / *Diagram 7*

Diberi bahawa panjang AE = 10cm dan jejari separuh bulatan OABCD ialah 6cm.
It is given that the length of AE = 10 cm and the radius of the semicircle OABCD is 6 cm.
*[*Guna / *Use* $\pi = 3.142$ *]*

Hitung / *Calculate*

(a) $\angle EDA$ dalam radian,
$\angle EDA$ *in radian,*

[2 m / Aras R]

(b) (i) panjang, dalam cm, lengkok AB,
the length , in cm, of the arc AB,

[2 m / Aras R]

(ii) perimeter, dalam cm, kawasan berlorek,
the perimeter, in cm , of the shaded region,

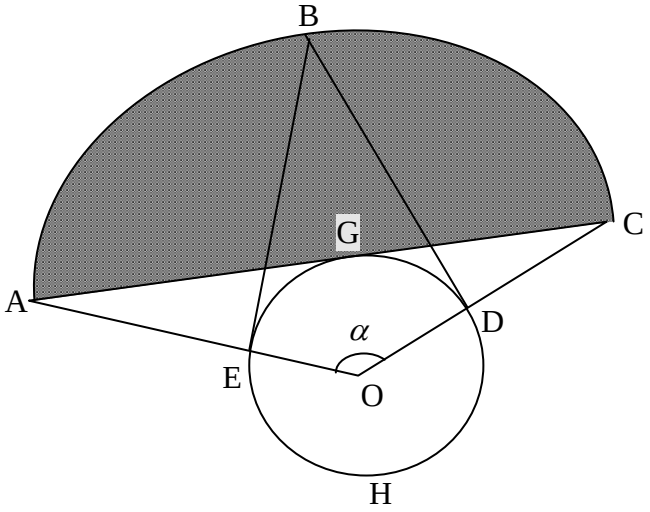
[3 m / Aras S]

(c) luas, dalam cm^2 segmen BCD.
the area, in cm^2*, of the segment BCD.*

[3 m / Aras S]

8 Rajah 8 menunjukkan sebuah bulatan EGDH, berpusat di O dan berjejari 5cm. EB, DB dan AC masing-masing ialah tangen kepada bulatan di E, D dan G.Garis lurus OA dan OC masing-masing bersilang pada bulatan itu di E dan D. ABC ialah lengkok bulatan berpusat di O.

Diagram 8 shows a circle *EGDH*, centre *O* and radius 5 cm. *EB*, *DB* and *AC* are tangents to the circle at *E*, *D* and *G* respectively. The straight lines, *OA* and *OC* intersect the circle at *E* and *D* respectively. *ABC* is an arc of a circle, centre *O*.



Rajah 8 / *Diagram 8*

Diberi BD = 12 cm, hitung
Given BD = 12 cm, calculate

(a) sudut α, dalam radian,
the angle α, in radians,

[3 m / Aras S]

(b) panjang, dalam cm, lengkok ABC,
the length, in cm, of the arc ABC,

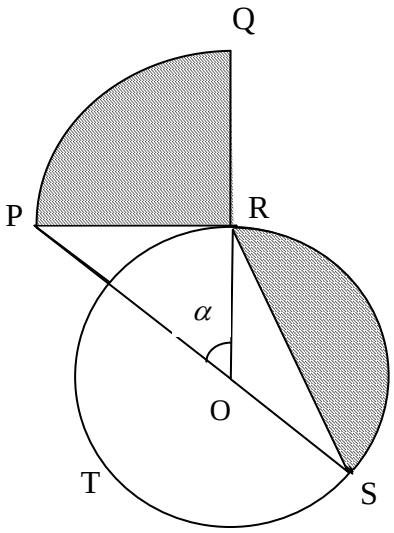
[3 m / Aras S]

(c) luas, dalam cm^2, kawasan berlorek.
the area, in cm^2, of the shaded region.

[4 m / Aras T]

9. Rajah di bawah menunjukkan satu bulatan RST yang berpusat di O dan berjejari 7cm. PR ialah tangen kepada bulatan pada titik R dan PRQ adalah sukuan bagi bulatan berpusat R. R adalah titik tengah bagi OQ dan RS adalah garis perentas. ORQ dan POS adalah garis lurus.

Diagram below shows a circle RST with centre O and radius 7cm. PR is a tangent to the circle at point R and PRQ is a quadrant of a circle with centre R. R is the midpoint of OQ and RS is a chord. ORQ and POS are straight lines.



Hitung / *Calculate,*

[Guna / *Use* $\pi = 3.142$]

(a) sudut α , dalam radian,
the angle α *in radians,*

[2 m / Aras R]

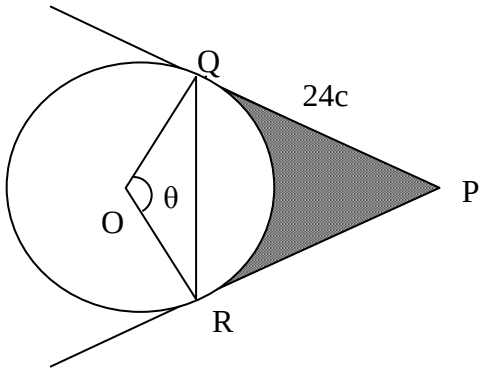
(b) peritmeter, dalam cm, bagi kawasan berlorek,
the perimeter, in cm, of the shaded region,

[4 m / Aras T]

(c) luas, dalam cm, bagi kawasan berlorek.
the area, in cm^2*, of the shaded region*.

[4 m / Aras T]

10. Rajah di bawah menunjukkan sebuah bulatan berpusat O dan berjejari 10 cm. PQ dan PR masing-masing ialah tangen kepada bulatan itu pada titik Q dan titik R.
Diagram below shows a circle with centre O and a radius of 10 cm. PQ and PR are the tangent to the circle at point Q and R respectively.



[Guna / *Use* $\pi = 3.142$]

(a) Cari nilai θ , dalam radian.
Find the value of θ *dalam radian.*

[2 m / Aras R]

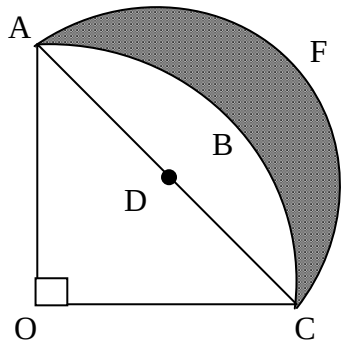
(b) Hitung panjang QR, dalam cm.
Calculate the length of QR, in cm.

[3 m / Aras S]

(c) Hitung luas, dalam cm^2, rantau berlorek.
Calculate the area, in cm^2*, of the shaded region.*

[5 m / Aras T]

11. Rajah di bawah menunjukkan sukuan bulatan OABC berpusat O dan semibulatan DAFC berpusat D. Diberi perimeter sukuan bulatan OABC ialah 17.86 cm.
Diagram below shows a quadrant OABC with centre O and a semicircle DAFC with centre D. Given the perimeter of the quadrant OABC is 17.86 cm.



[Guna / *Use* $\pi = 3.142$]

(a) Cari jejari, dalam cm, sukuan bulatan OABC.
Find the radius, in cm, of the quadrant OABC.

[2 m / Aras R]

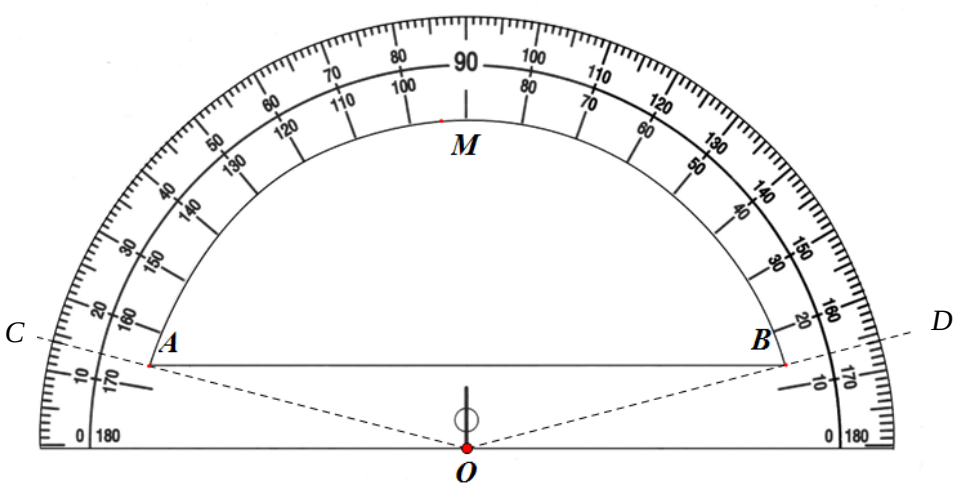
(b) Cari panjang ADC, dalam cm.
Find the length of ADC, in cm.

[2 m / Aras R]

(c) Hitung luas, dalam cm^2, rantau berlorek.
Calculate the area, in cm^2, of the shaded region.

[6 m / Aras T]

12. Rajah di bawah menunjukkan jangka sudut di dalam bentuk separuh bulatan. AMB ialah tembereng minor sebuah bulatan dengan berpusat di O dan berjejari 6.75 cm. OAC dan OBD ialah garis lurus.
Diagram below shows a protractor in the shape of a semicircle . AMB is a minor segment of a circle with centre O and radius 6.75 cm. OAC and OBD are straight lines.



(a) (i) Ukur sudut AOB betul kepada darjah terhampir.
Measure angle AOB correct to the nearest degree.

(ii) Tukarkan sudut AOB dalam radian, berikan jawapan anda betul kepada tiga tempat perpuluhan.
Convert angle AOB into radian, giving your answer correct to three decimal places.

[2 m / Aras R]

(b) Berdasarkan darjah yang disukat di (a), hitung
Based on the angle measured in (a), calculate

(i) perimeter, dalam cm tembereng minor *AMB*
perimeter, in cm of the minor segment AMB.

(ii) luas, dalam cm^2 tembereng minor *AMB.*
area, in cm^2 of the minor segment AMB.

[8 m / Aras T]

JAWAPAN : MODUL 8 : BAB : SUKATAN MEMBULAT

KERTAS 1

1. $\theta = 0.8571$

2. r = 7.583

3. (a) $\theta = 1.396$
   (b) r = 10.74

4. (a) $\theta = 0.7$
   (b) 104.8

5. (a) 23.64
   (b) 125.25

6. (a) 1.047
   (b) 44.21

7. 10 cm

8. (a) $\theta = 1.556$
   (b) 28.37

9. $\theta = 1.091$

10. 12.87

11. $r = 7.682$

12. (a) $\theta = 0.49$
    (b) 10.805 cm^2

13. (a) 2.3916
    (b) 76.53 cm^2

14. 57

15. 23.85 cm^2

16. 4.947 cm

17. $156^\circ 8'$

18. (a) 1.287
    (b) 13.12 cm^2

19. 3π *atau* 9.426

20. (a) $\theta = \frac{4}{5}$
    (b) 22 cm

21. 8 : 1

22. (a) θ = 0.9675
    (b) 17.4

23. 2.487

24. 14. 401

25. 30π

26. 52.37

27. (a) 0.9507

    (b) 15.356 cm

KERTAS 2

1. (a) $\theta = 0.9273$
   (b) 50.32

2. (a) $\frac{2}{3}\pi$ rad
   (b) 41.89
   (c) 245.72

3. (a) 6
   (b) 25.56
   (c) 41.38

4. (a) 93.8
   (b) 45.016
   (c) 39.63

5. (a) 62.84
   (b) 354.513

6. (a) 1.37 rad
   (b) 28.35
   (c) 162.46

7. (a) 0.6948
   (b) i. 8.338
   ii. 24.74 cm
   (c) 13.84 cm^2

8. (a) α = 2.352
   (b) 30.576
   (c) 138.744

9. (a) $\frac{\pi}{4}$ rad
   (b) 54.427
   (c) 78.8996

10. (a) 2.352 rad
    (b) 18.46
    (c) 122.4

11. (a) 5.001
    (b) 7.072
    (c) 12.50

12 (a) i. 152°
   ii. 2.653

   (b) i. 31.01
   ii. 49.74