



Circles

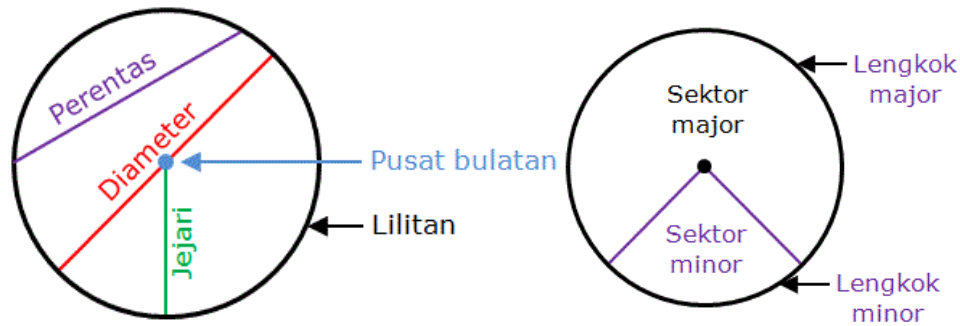
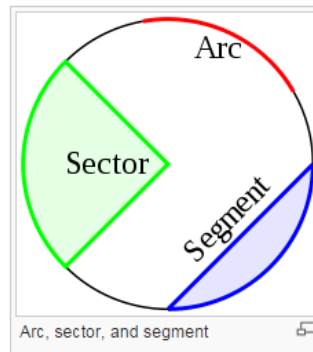
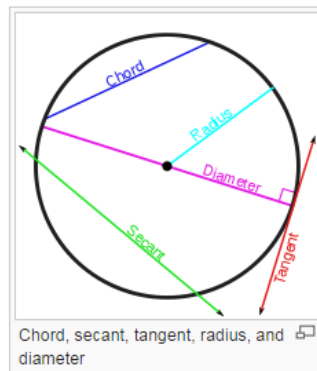
Mathematics

Circles

Just couple of formula if you want to calculate

1. Circumference of circle
2. Area of Circle

But before this, let's look at some of the common definition of circle



$$\text{Circumference} = 2\pi r,$$

$$\text{Area} = \pi r^2,$$

$$\text{Arc} = 2\pi r \times \frac{\theta}{360^\circ},$$

$$\text{Area Sector} = \pi r^2 \times \frac{\theta}{360^\circ}$$

$$\text{panjang lilitan} = 2\pi j$$

$$\text{Luas bulatan} = \pi j^2$$

$$\text{lengkuk bulatan} = 2\pi r \times \frac{\theta}{360^\circ}$$

$$\text{Luas Sektor} = \pi r j^2 \times \frac{\theta}{360^\circ}$$



Circumference of Circle

$$\text{Circumference} = 2\pi r,$$

$$\text{panjang lilitan} = 2\pi j$$

Question 1

Given the radius of the circle below. Find the circumference? **Cari lilitan bulatan ?**

Radius / jejari	Circumference/ lilitan
r= 7 cm	
r= 14 cm	
r= 21cm	
r= 42cm	
r= 56 cm	
r= 64 cm	

Question 2

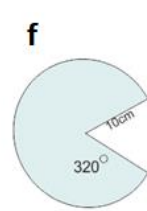
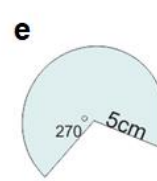
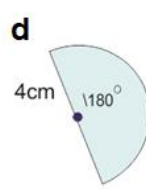
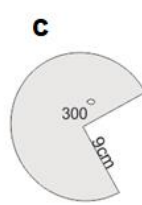
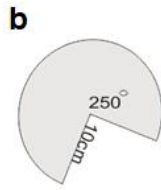
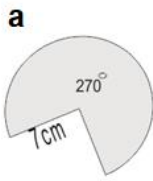
Given the circumference find the radius of the circle **Cari jejari jika panjang lilitan diberi**

Circumference / lilitan	Radius/ jejari
Circumference = 25cm	
Circumference = 45cm	
Circumference = 26cm	
Circumference = 28cm	
Circumference = 28cm	
Circumference = 105cm	



Question 3

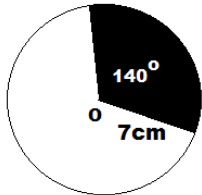
Find the length of arc? **Cari Panjang lengkok?**



Answer

Solving questions related to circles

Base on the diagram below



Find *Car*

i. *minor arc / lengkok minor*

ii. *minor sector / lengkok major*

i.

$$\text{minor arc} = 2\pi r \times \frac{140}{360}$$

$$\text{minor arc} = 2 \times \pi \times 7 \times \frac{140}{360}$$

$$\text{Answer} = 5.44\pi \text{ cm}$$

ii

$$\text{minor sector} = \pi r^2 \times \frac{140}{360}$$

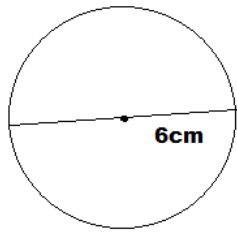
$$\text{minor sector} = \pi(7)^2 \times \frac{140}{360}$$

$$\text{Answer: } 19.05m^2$$



Question 1

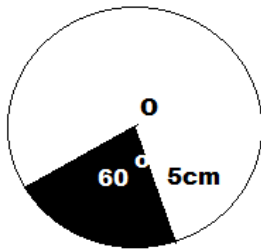
Solve the following question, **Selesaikan**



Find/ **Cari**

- a. Circumference **lilitan bulatan**
- b. Area of the circle **luas bulatan**

Question 2

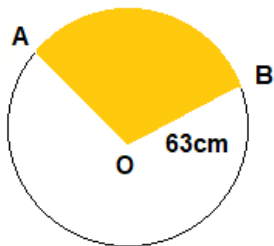


Find **cari**

- a. Minor arc **lengkuk minor**
- b. Minor sector **luas sector minor**

Question 3

Given the $\angle AOB = 80^\circ$. **Diberi $\angle AOB = 80^\circ$** .



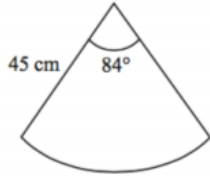
Find **Cari**

- a) Major arc **lengkuk major**
- b) Area of Shaded region **luas Kawasan berlorek**



HOTS Questions

Question 1



Calculate the area of the sector. Give your answer correct to 3 significant figures.

..... cm^2

Cari luas sector. Beri jawapan dalam 3 angka bererti

..... cm^2

Solutions



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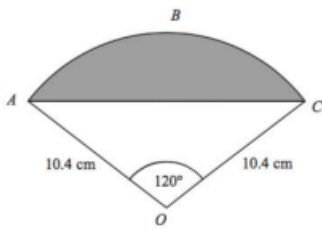


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Question 2



Calculate the length of the arc ABC of the sector.
Give your answer correct to 3 significant figures.

..... cm

Cari lengkok minor ABC dan berikan jawapan dalam 3 angka bererti

.....cm

Solutions



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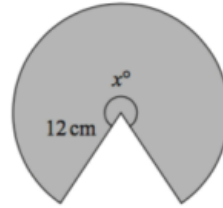
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Question 3

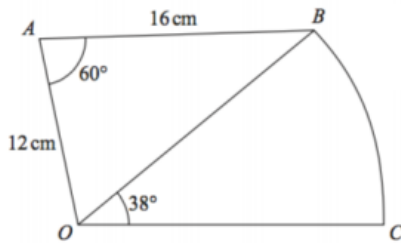
In the diagram, a sector of a circle of radius 12 cm is shaded.
The area of the sector is $112\pi \text{ cm}^2$.
Calculate the value of x .



Gambar rajah menunjukkan sektor sebuah bulatan yang berjejari 12cm. Cari nilai x jika luas sector ialah $112\pi \text{ cm}^2$

Solution

Question 4



Angle $BOC = 38^\circ$

The shape $OABC$ is made from a triangle and a sector of a circle.

OAB is a triangle. OBC is a sector of a circle, centre O .

$OA = 12 \text{ cm}$ $AB = 16 \text{ cm}$
Angle $OAB = 60^\circ$

Find the area $OABC$?

$OABC$ ialah sebuah segitiga manakala OBC ialah sebuah sektor. $OA = 12 \text{ cm}$, $AB = 16 \text{ cm}$ $\angle OAB = 60^\circ$. Cari luas $OABC$

Solution