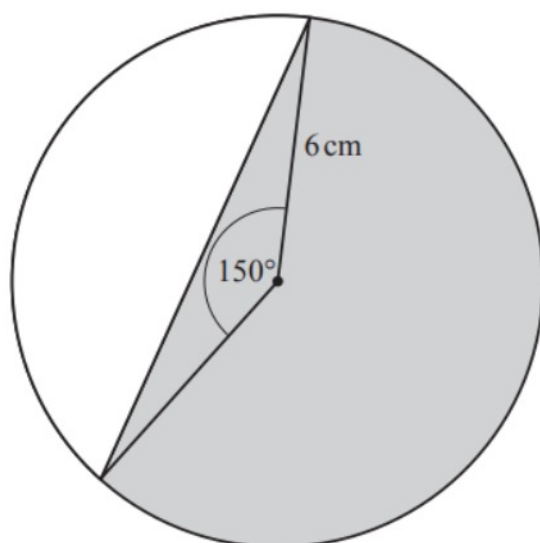




NOT TO
SCALE

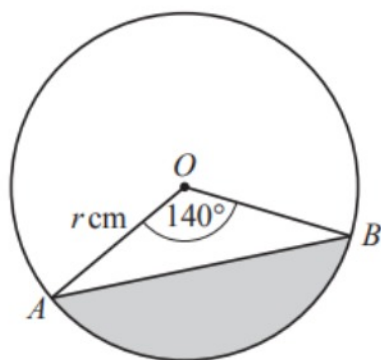
A sector of a circle with radius 6 cm has a sector angle of 150° .

Find the exact value of the area of the shaded region.

Give your answer in its simplest form.

..... cm^2 [4]

(b)

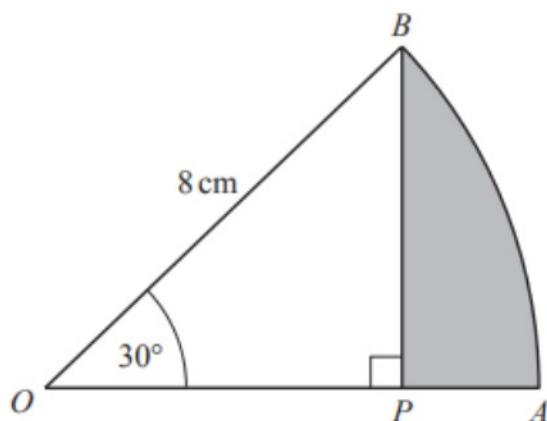


NOT TO
SCALE

A and B are points on a circle, centre O , radius r cm.
The area of the shaded segment is 65 cm^2 .

Calculate the value of r .

$r = \dots\dots\dots$ [4]



NOT TO
SCALE

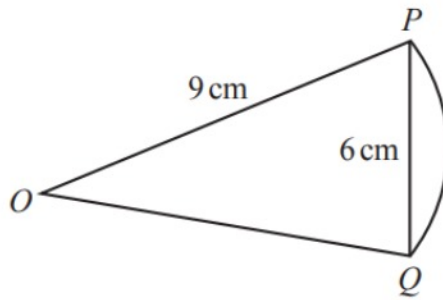
OAB is the sector of a circle, centre O .
 $OB = 8$ cm and angle $AOB = 30^\circ$.
 BP is perpendicular to OA .

- (a) Calculate AP .

$AP = \dots\dots\dots$ cm [3]

- (b) Work out the area of the shaded region APB .

$\dots\dots\dots$ cm² [3]



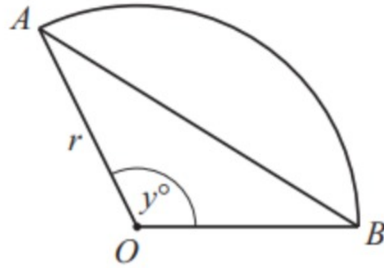
NOT TO
SCALE

The diagram shows a sector of a circle with centre O and radius 9 cm .
The length of the chord PQ is 6 cm .

Calculate the length of the arc PQ .

..... cm [3]

(b)

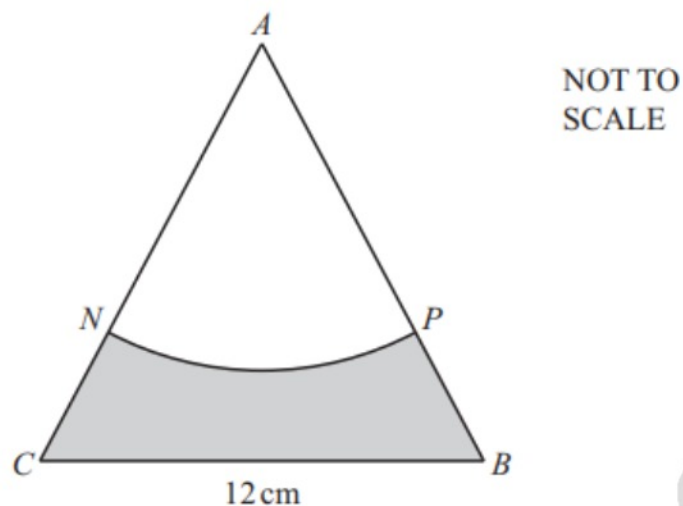


NOT TO
SCALE

The diagram shows a sector, OAB , of a circle with centre O and radius r .
The area of triangle OAB is half the area of the sector.
Angle $AOB = y^\circ$ and is obtuse.

(i) Show that $360 \sin y = \pi y$.

[2]



The diagram shows an equilateral triangle ABC with all sides of length 12 cm .

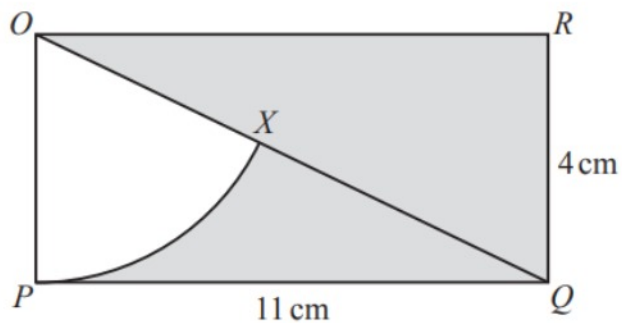
ANP is a sector of a circle, centre A .

N lies on AC such that $AN : NC = 2 : 1$.

P lies on AB such that $AP : PB = 2 : 1$.

Calculate the area of the shaded region.

..... cm^2 [4]

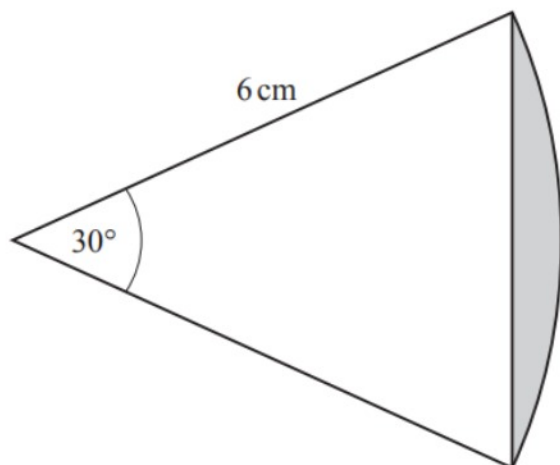


NOT TO
SCALE

The diagram shows a rectangle $OPQR$ with length 11 cm and width 4 cm.
 OQ is a diagonal and OPX is a sector of a circle, centre O .

Calculate the percentage of the rectangle that is shaded.

..... % [5]

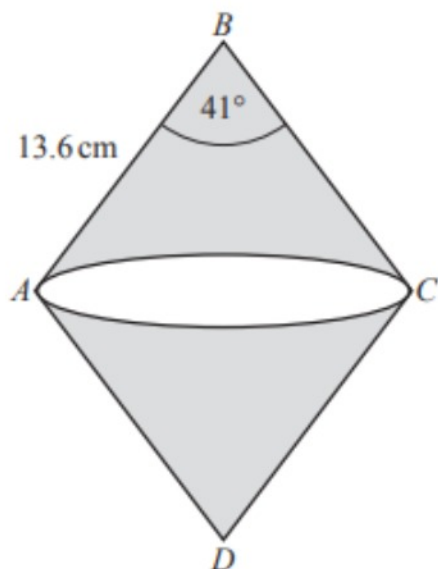


The area of the shaded segment is $(a\pi + b) \text{ cm}^2$.

Find the value of a and the value of b .

$a =$

$b =$ [4]



NOT TO
SCALE

$ABCD$ is a rhombus with side length 13.6 cm.

Angle $ABC = 41^\circ$.

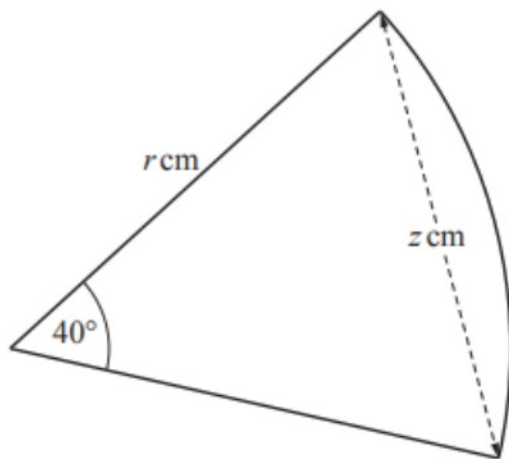
BAC is a sector of a circle with centre B .

DAC is a sector of a circle with centre D .

Calculate the shaded area.

..... cm^2 [4]

(c)

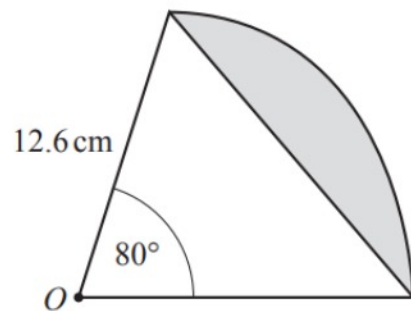


NOT TO
SCALE

This sector of a circle has radius r and perimeter 20 cm.

Find the value of z .

$z =$ [6]



NOT TO
SCALE

The diagram shows a sector of a circle, centre O , radius 12.6 cm .

Calculate the perimeter of the shaded segment.

..... cm [4]