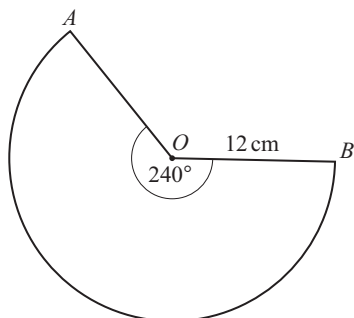


23



NOT TO
SCALE

The diagram shows a major sector, AOB , of a circle.
The sector angle is 240° and the radius is 12 cm.

- (a) Show that the length of the major arc AB is 16π cm.

[1]

- (b) OA is joined to OB to form a cone.

Work out the volume of the cone.

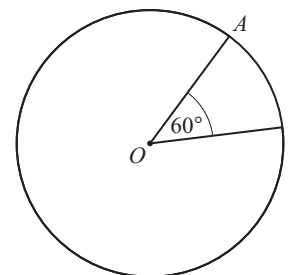
Give your answer in the form $\frac{(a\sqrt{b})\pi}{3}$ where a is an integer and b is a prime number.

①

..... cm^3 [6]

Question 24 is printed on the next page

19



NOT TO
SCALE

The diagram shows a circle, centre O , radius 12 cm.

- (a) Work out the area of the **minor** sector AOB .
Give your answer in terms of π in its simplest form.

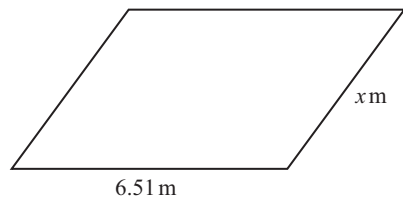
..... cm^2 [2]

- (b) Calculate the length of the **major** arc AB .
Give your answer in terms of π in its simplest form.

..... cm [3]

②

7 The diagram shows a parallelogram.



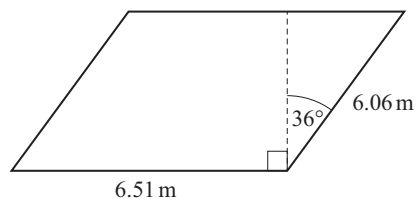
NOT TO
SCALE

The parallelogram has the same perimeter as a circle with radius 4 m.

(a) Show that $x = 6.06$ m, correct to 2 decimal places.

[4]

(b)



NOT TO
SCALE

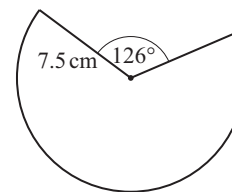
The floor of a room is in the shape of this parallelogram.
It costs \$18 per square metre to tile the floor.

Calculate the total cost of tiling the floor.

③

\$ [4]

19



NOT TO
SCALE

The diagram shows a major sector of a circle with radius 7.5 cm.

Calculate the perimeter of the major sector.

..... cm [4]

④