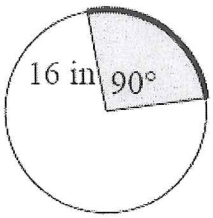
Hmwk – Sectors Area & Arc Length

Name: Answers

8. Calculate the sector area:

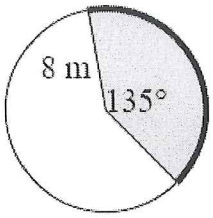
a.



64π

$201.1\ in^2$

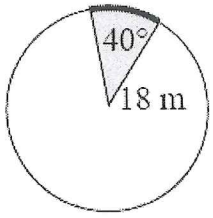
b.



24π

$75.4\ m^2$

c.



36π

$113.1\ m^2$

9. The area of a circle is 225π square inches. Find the area of the sector whose central angle is $45°$.

$28.125\pi \rightarrow \frac{225\pi}{8}$

$88.4\ in^2$

10. The central angle of a sector is $60°$ and the area of the circle is 144π. What is the area of the sector?

24π

75.4

11. A circle has a radius of 12. Find the area of the sector whose central angle is $120°$.

48π

150.8

12. Find the radius of a circle which has a sector area of 9π whose central angle is $90°$.

$r = 6$

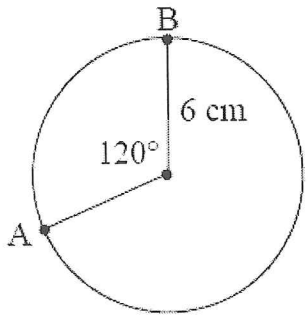
13. The central angle of a sector is $72°$ and the sector has an area of 5π. Find the radius.

$r = 5$

14. Find the measure of the central angle of a sector if its area is 5π and the radius is 6.

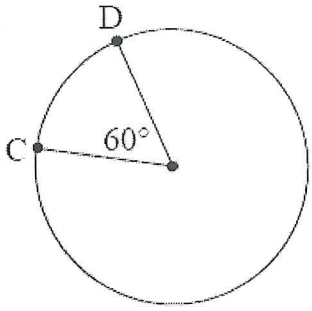
$\theta = 50°$

1. Find the length of arc AB.



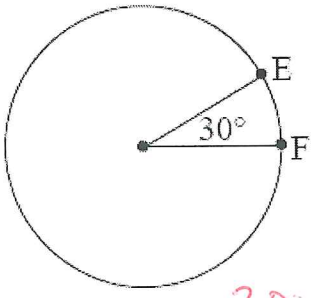
Arc: 4π / 12.6 cm

2. The diameter is 24 cm. Find the length of arc CD.



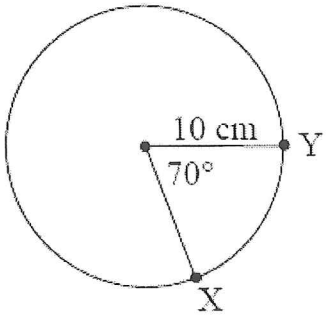
Arc: 4π / 12.6 cm

3. The length of arc EF is 5π in. Find the length of the radius.



Radius: 30 in

4. Find the length of arc XY.



Arc: $\frac{35\pi}{9}$ / 12.2 cm

5. A circle has an arc whose measure is 80° and whose length is 88π. What is the diameter of the circle?

$d = 396$

6. A circle has a circumference whose length is 25π. Find the length of an arc whose central angle is 90°.

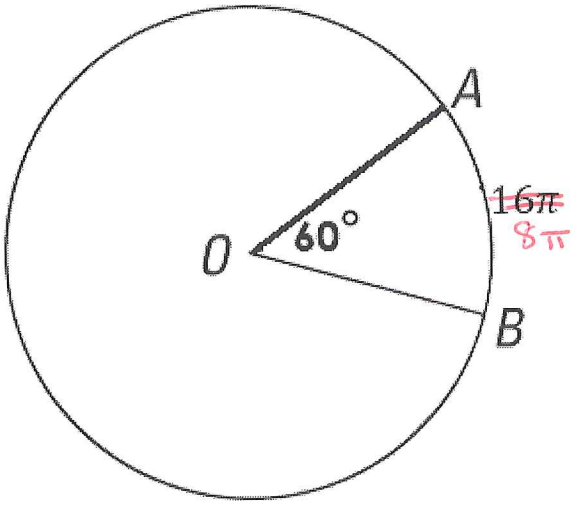
$6.25\pi \rightarrow \frac{25\pi}{4}$

19.6

7. Find the measure of the central angle of an arc if its length is 14π and the radius is 18.

$\theta = 140°$

a) Minor arc AB has an arc length of 8π ft and a measure of 60°.



a) What is the total circumference?

$C = 48\pi$ ft

b) What is the length of the radius?

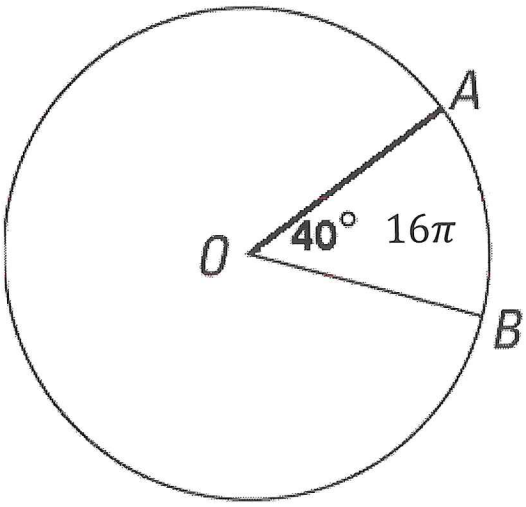
$r = 24$ ft

c) What is the area of sector AOB?

$S = 96\pi$

301.6 ft^2

16. Sector AOB has an area of 16π mi^2 and a central angle of 40°



a) What is the total area?

$A = 144\pi$ mi^2

b) What is the length of the radius?

$r = 12$ mi

c) What is the length of minor arc AB?

$L = \frac{8\pi}{3}$

8.4 mi