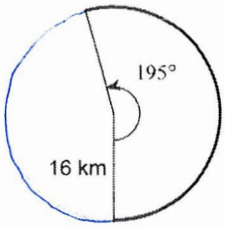
Math 3 Name_____ ID: 1

Arcs, Arc Length, & Sector Area

Date_____ Period____

Find the length of each arc.

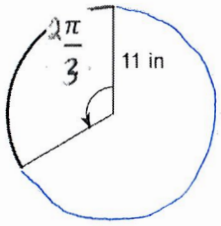
1)



A) $\frac{52\pi}{3}$ km B) $\frac{9\pi}{4}$ km

C) $\frac{7\pi}{3}$ km D) $\frac{224\pi}{3}$ km

2)



3) $r = 8$ yd, $\theta = \frac{7\pi}{4}$

A) 14π yd B) 15π yd

C) 5040π yd D) $\frac{25\pi}{4}$ yd

4) $r = 11$ km, $\theta = 240°$

Find the length of each arc. Round your answers to the nearest tenth.

5) $r = 16$ cm, $\theta = \frac{7\pi}{6}$

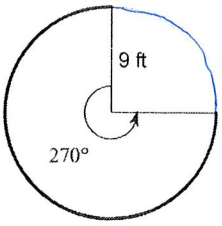
A) 100.5 cm B) 52.4 cm

C) 58.6 cm D) 804.2 cm

6) $r = 20$ ft, $\theta = 210°$

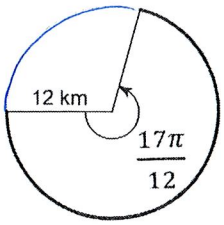
This lesson plan was created by Stephanie Morgan of Pisgah High School as part of the 2021-2022 UNC World View Global Fellows Program. For more information about the program, please visit http://worldview.unc.edu/

7)



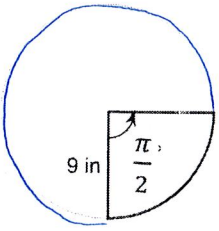
A) 40.8 ft
B) 8.9 ft
C) 91608.8 ft
D) 42.4 ft

8)



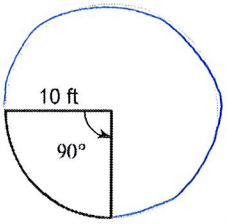
Find the area of each sector.

9)



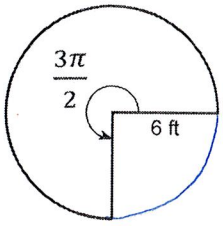
A) $\frac{\pi}{3}$ in²
B) 7290π in²
C) $\frac{81\pi}{4}$ in²
D) $\frac{9\pi}{2}$ in²

10)



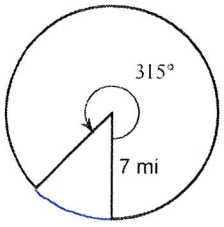
Find the area of each sector. Round your answers to the nearest tenth.

11)



A) 97.9 ft²
B) 84.8 ft²
C) 113.1 ft²
D) 28.3 ft²

12)



13) $r = 8$ m, $\theta = 195°$

A) 703.7 m²
B) 108.9 m²
C) 126.7 m²
D) 201.1 m²

14) $r = 18$ km, $\theta = \frac{4\pi}{3}$

Find the area of each sector.

15) $r = 5$ ft, $\theta = 90°$

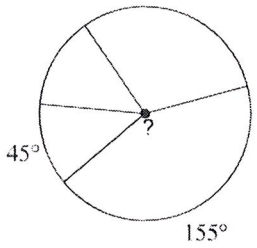
A) 900π ft^2 B) $\frac{3\pi}{2}$ ft^2

C) $\frac{25\pi}{4}$ ft^2 D) 810000π ft^2

16) $r = 8$ mi, $\theta = 240°$

Find the measure of the arc or central angle indicated. Assume that lines which appear to be diameters are actual diameters.

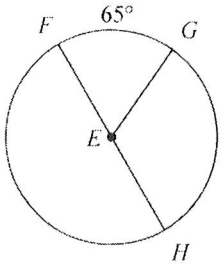
17)



A) 155° B) 142°

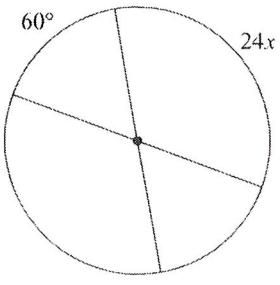
C) 137° D) 143°

18) $m\angle GEH$



Solve for x. Assume that lines which appear to be diameters are actual diameters.

19)



A) 12 B) 9

C) 5 D) 6

Find the measure of the arc or central angle indicated. Assume that lines which appear to be diameters are actual diameters.

20) $m\angle GFH$