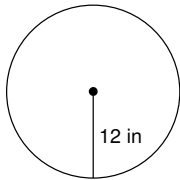


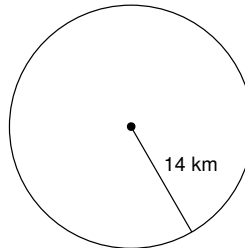
Circumference and Area of Circles

Find the area of each. Use your calculator's value of π . Round your answer to the nearest tenth.

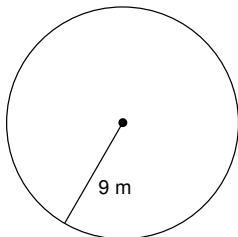
1)



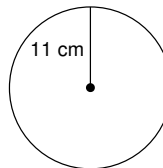
2)



3)



4)



5) radius = 2.6 in

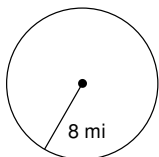
6) radius = 34.1 in

7) radius = 13.2 km

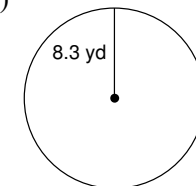
8) radius = 29.9 km

Find the circumference of each circle. Use your calculator's value of π . Round your answer to the nearest tenth.

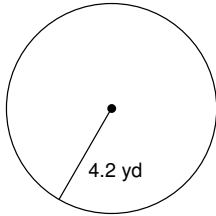
9)



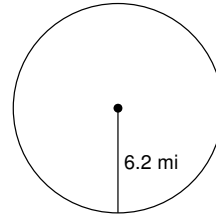
10)



11)



12)



13) radius = 5.2 ft

14) radius = 11.1 ft

15) radius = 9.5 in

16) radius = 9.3 in

Find the radius of each circle. Use your calculator's value of π . Round your answer to the nearest tenth.

17) circumference = 62.8 mi

18) circumference = 69.1 yd

19) circumference = 12.6 yd

20) circumference = 25.1 ft

Find the diameter of each circle. Use your calculator's value of π . Round your answer to the nearest tenth.

21) area = 201.1 in²

22) area = 78.5 ft²

Find the circumference of each circle.

23) area = 64π mi²

24) area = 16π in²

Find the area of each.

25) circumference = 6π yd

26) circumference = 22π in

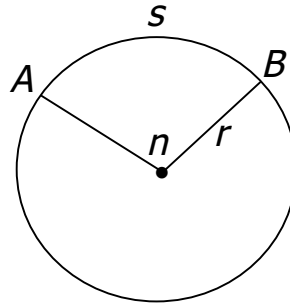
Critical thinking question:

27) Find the radius of a circle so that its area and circumference have the same value.

Formula for arc length:

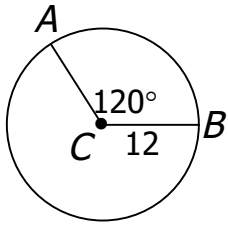
$$S = \frac{n}{360} \cdot 2\pi r \text{ (when given radius)} \quad \text{or} \quad S = \frac{n}{360} \pi d \text{ (when given diameter)}$$

where: S – arc length
 r – radius of a circle
 n – degrees in a central angle

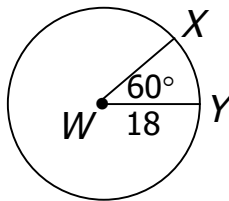


Examples: Leave answers in terms of π .

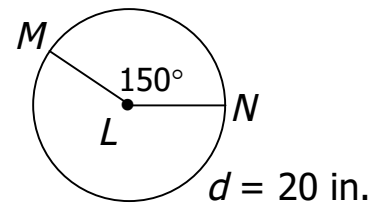
1. Find AB .



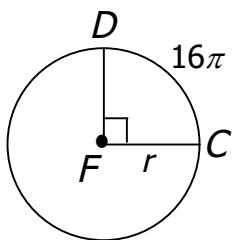
2. Find XY .



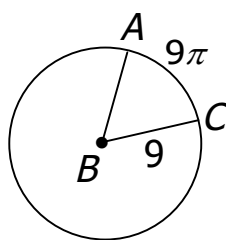
3. Find MN .



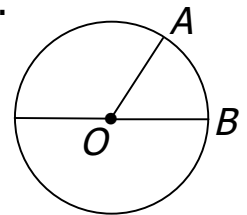
4. Find the radius.



5. Find $m\angle ABC$.



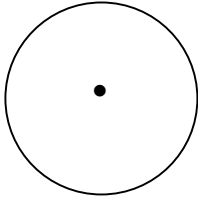
6. $d = 12$ cm, $m\angle AOB = 60^\circ$
 Find AB .



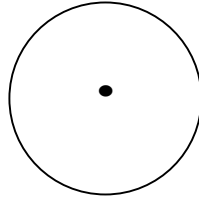
Sector – The region bounded by a central angle and its arc

Examples: Sketch a sector based on the following information.

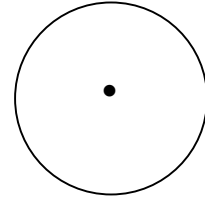
4. bound by a right angle



5. bound by a 60° \angle



6. bound by a 180° \angle



Area of a Sector: $A_s = \frac{n}{360^\circ} \pi r^2$ where $a = \text{area of sector}$
 $r = \text{radius}$
 $n = \text{central angle}$

Example: If $r = 2$ cm, find the area of each sector in Examples #4 – 6.

7. area of sector #4

8. area of sector #5

9. area of sector #6

$$A_s = \underline{\hspace{2cm}}$$

$$A_s = \underline{\hspace{2cm}}$$

$$A_s = \underline{\hspace{2cm}}$$

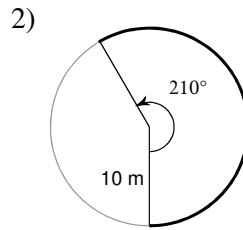
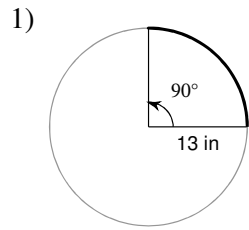
10. Find the area of a sector whose central angle is 40° and radius is 3 in.

11. The area of a sector is 5π , and the radius of the circle is 6 cm. Find the degree of the arc.

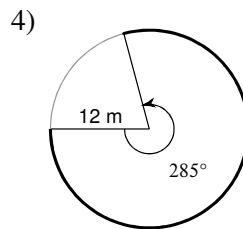
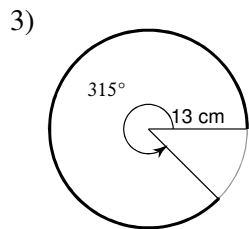
Circle Arc Lengths and Sector Area CHECKPOINT

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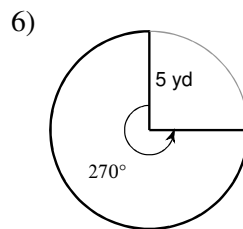
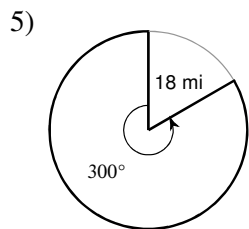
Find the length of each arc.



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



Find the area of each sector.



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

