Assume that lines that appear to be tangent are tangent. *O* is the center of the circle. Find the value of *x*. Round answers to the *nearest tenth*, if necessary.
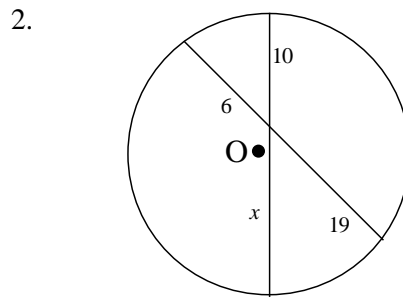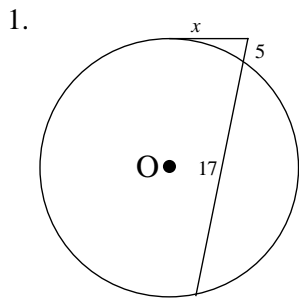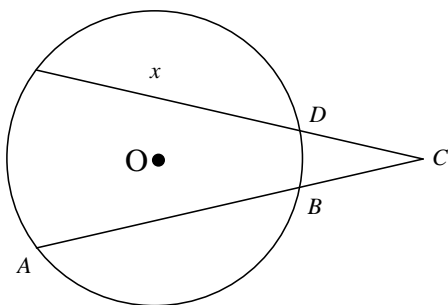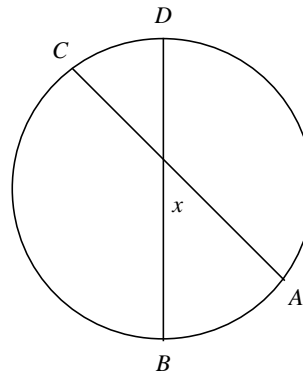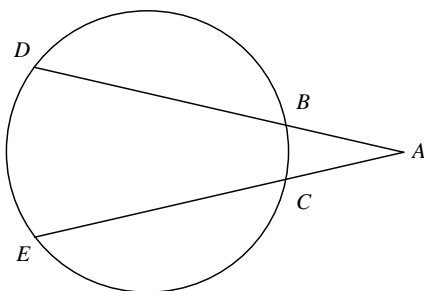
1.

2.

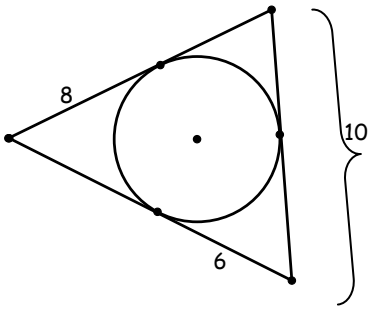
3.

4.
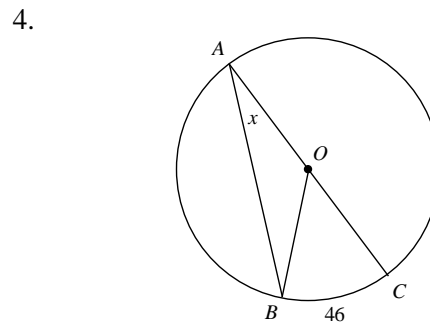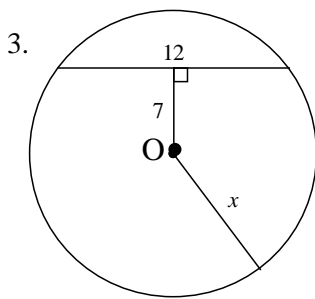
5.　　　$AB = 18$, $BC = 8$, and $CD = 9$

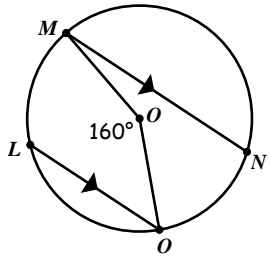6.　$m\overarc{AB} = 48$ and $m\overarc{CD} = 24$

8.　　　$m\overarc{DE} = 98$ and $m\overarc{BC} = 50$. Find $m\angle A$. (The figure is not drawn to scale.)
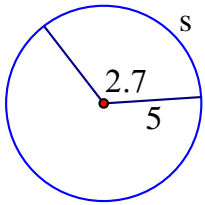
9. Find the perimeter of the triangle.

8
10
6

10. In circle O, $\overset{\frown}{ML} : \overset{\frown}{OL} = 3:5$. Find the $m\overset{\frown}{MN}$.

M
160° O
L
N
O
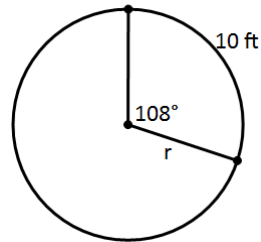
11. Find the missing value.

a.   b.

S
2.7
5

10 ft
108°
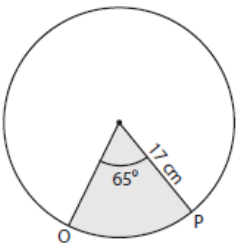r
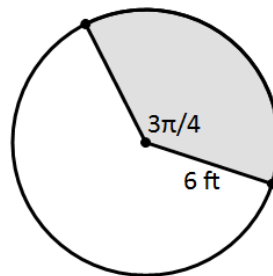
12. Find the area of the shaded sector to the nearest tenth.

a.   b.

17 cm
65°
O
P

3π/4
6 ft

11. a. Convert $70°$ to radians (in terms of π)   b. Convert $\dfrac{3\pi}{8}$ radians into degrees (to the nearest tenth)