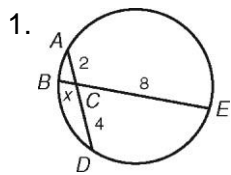15.4   **Show all work**   Name_____
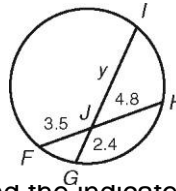
For each figure, determine the value of the variable and the indicated lengths by applying the Chord-Chord Product Theorem.
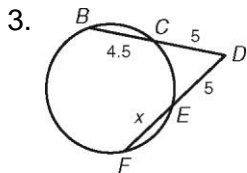
1.
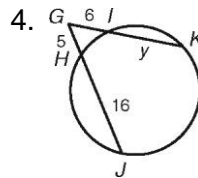
$x = $ 1

$AD = $ 6

$BE = $ 9
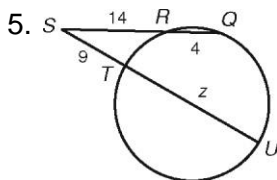
2.

$y = $ 7

$FH = $ 8.3

$GI = $ 9.4

For each figure, determine the value of the variable and the indicated lengths by applying the
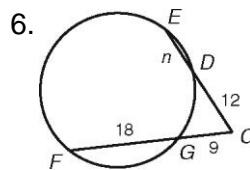**Secant-Secant Product Theorem.**

3.

$x = $ 4.5

$BD = $ 9.5

$FD = $ 9.5

4.

$y = $ 11.5

$GJ = $ 21
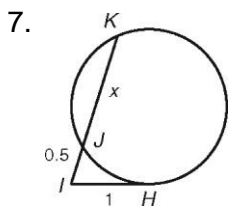
$GK = $ 17.5

5.

$z = $ 19
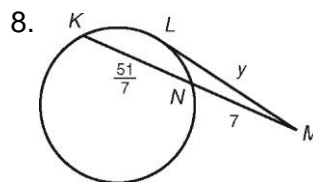
$SQ = $ 18

$SU = $ 28

6.

$n = $ 8.25

$CE = $ 20.25

$CF = $ 27

For each figure, determine the value of the variable and the indicated length by applying the
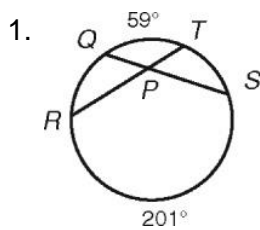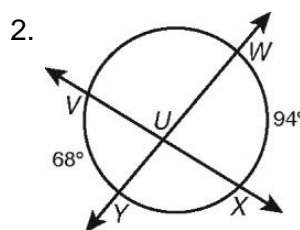**Secant-Tangent Product Theorem.**

7.

$x = $ 1.5

$IK = $ 2

8.

$y = $ 10

$KM = \dfrac{100}{7} \approx $ 14.29

15.5

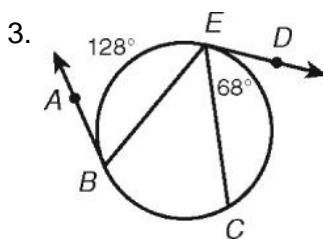**Use the Intersecting Chords Angle Measure Theorem to find the measure of each angle.**
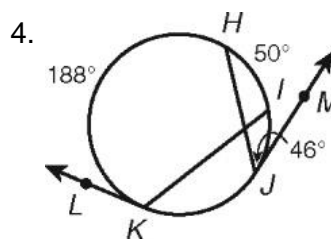
1.

$m\angle RPS = $ 130°

2.

$m\angle YUV = $ 81°

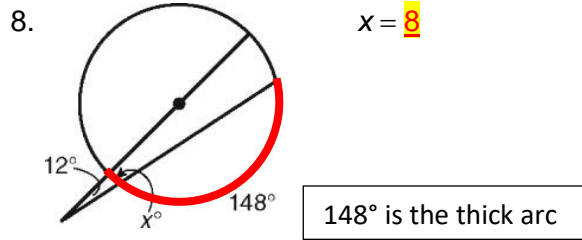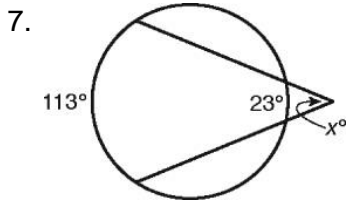**Use the Tangent-Secant Interior Angle Measure Theorem to find the measure of the arc or angle.**

3.

$m\angle ABE = $ 64°
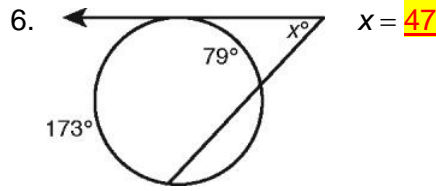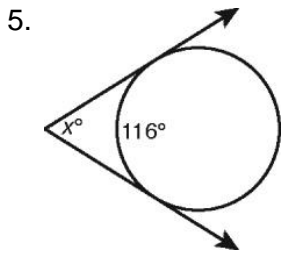
$m\overset{\frown}{CE} = $ 136°

4.

$m\angle LKI = $ 119°

$m\overset{\frown}{IJ} = $ 42°

Use the Tangent-Secant Exterior Angle Measure Theorem to find the value of x.

5. $x = $ 64

116°

6. $x = $ 47

79°

173° $x°$

7. $x = $ 45

113°   23°
                        $x°$

8. $x = $ 8

12°

148°   148° is the thick arc

$x°$

For each figure, determine the measure of the intercepted minor arc.

9. D   Y $m\widehat{YZ} = $ 120°

60° X

Z

10.   P $m\widehat{DE} = $ 80°

D
100°
C   E
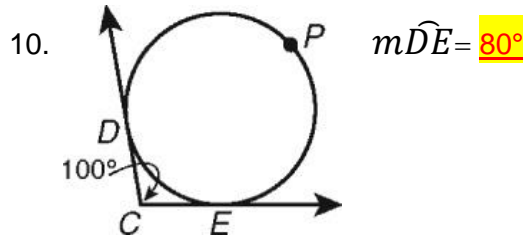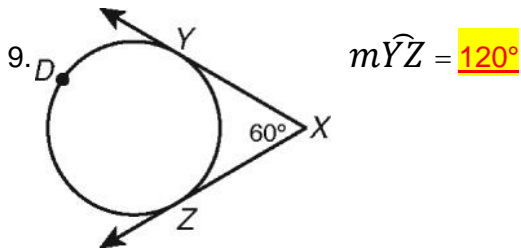
16.1

For 1-2, find the circumference and area of the circle. Leave your answers in terms of π.

1. Circumference 18π cm

W
18 cm

2. Circumference 26π mi

13 mi
N

Area 81π cm²

Area 169π mi²
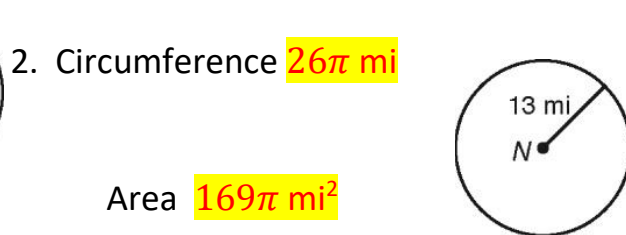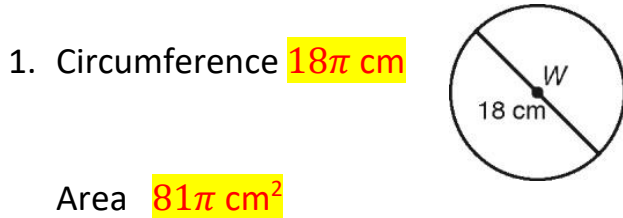
3. Find the circumference of a circle with diameter 7 cm. 7π cm

4. Find the area of a circle with diameter 7 cm. 12.25π cm²

5. The circumference of a tree is 20π ft. Find the diameter. 20 ft

6. Find the radius of a circle with a circumference of 12π feet. 6 ft

7. Find the diameter of a circle with area 25π feet². 10 ft