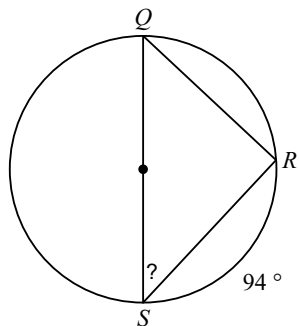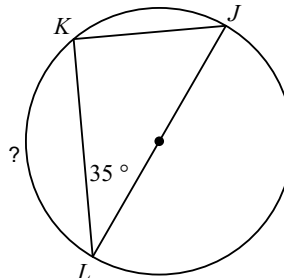## Lesson 12.1 ~ Extra Note Sheet

The Inscribed Right Triangle-Diameter Theorem states: "If a triangle is inscribed in a circle such that one side of the triangle is a diameter of the circle, then the triangle is a right triangle.

Use the Inscribed Right Triangle-Diameter Theorem to find the measure of the arc or angle indicated.
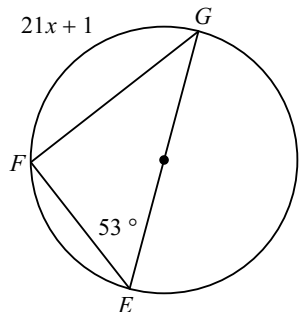
1)

2)

Use the Inscribed Right Triangle-Diameter Theorem to set up and solve an equation to find the value of *x*.
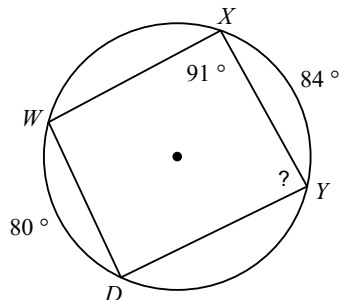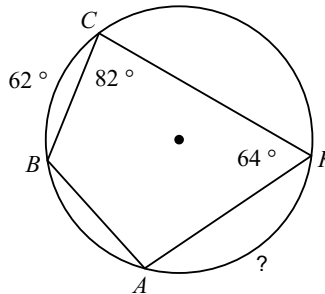
3)

The Inscribed Quadrilateral-Opposite Angles Theorem states: "If a quadrilateral in inscribed in a circle, then the opposite angles are supplementary."

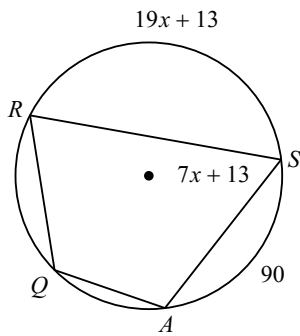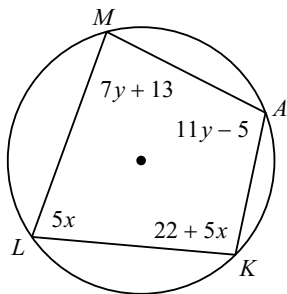**Use the Inscribed Quadrilateral-Opposite Angles Theorem to find the measure of the arc or angle indicated.**

4)

5)

Use the Inscribed Quadrilateral-Opposite Angles Theorem to set up and solve an equation to find the value of *x*.

6)

$19x + 13$

R

$7x + 13$

S

Q

90

A

Use the Inscribed Quadrilateral-Opposite Angles Theorem to set up and solve a system of equations to find the value of *x* and *y*.

7)

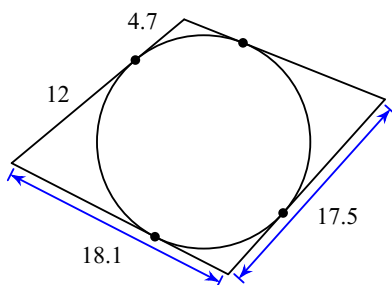
M
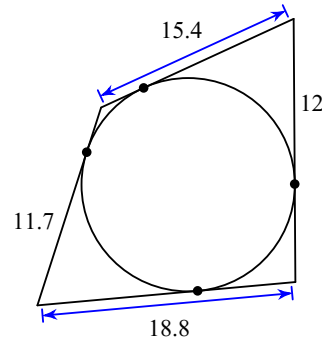
$7y + 13$

A

$11y - 5$

$5x$

$22 + 5x$

L

K

The Tangent Segment Theorem states: "If two segments are drawn from the same point on the exterior of a circle, then the tangent segments are congruent."

Consider the quadrilateral shown, which is circumscribed about a circle. Use the Tangent Segment Theorem to determine the perimeter of each quadrilateral.

8)

4.7

12

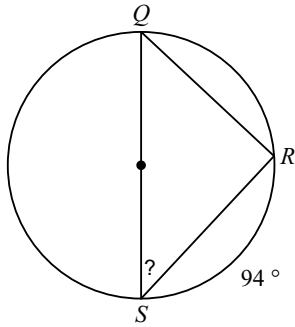18.1

17.5

9)

15.4

12

11.7

18.8

Lesson 12.1 ~ Extra Note Sheet

The Inscribed Right Triangle-Diameter Theorem states: "If a triangle is inscribed in a circle such that one side of the triangle is a diameter of the circle, then the triangle is a right triangle.
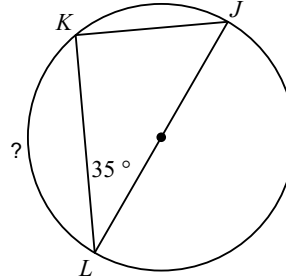
Use the Inscribed Right Triangle-Diameter Theorem to find the measure of the arc or angle indicated.
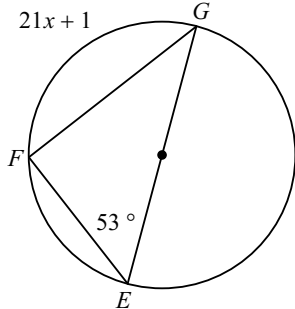
1)

94 °

43°

2)

35 °

110°

Use the Inscribed Right Triangle-Diameter Theorem to set up and solve an equation to find the value of *x*.
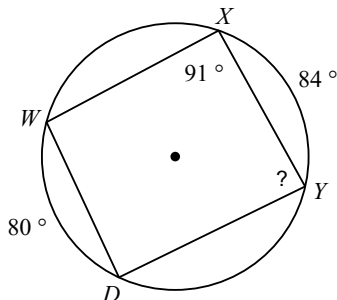
3)

$21x + 1$

53 °

5

The Inscribed Quadrilateral-Opposite Angles Theorem states: "If a quadrilateral in inscribed in a circle, then the opposite angles are supplementary."
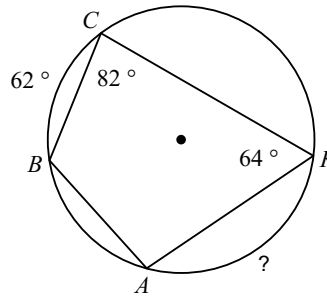
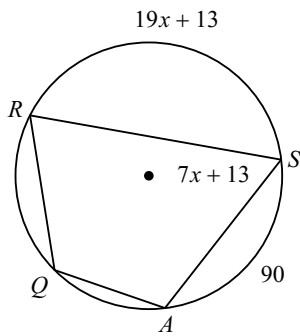**Use the Inscribed Quadrilateral-Opposite Angles Theorem to find the measure of the arc or angle indicated.**

4)

91 °   84 °

80 °

87°

5)

62 ° 82 °

64 °

98°

Use the Inscribed Quadrilateral-Opposite Angles Theorem to set up and solve an equation to find the value of *x*.
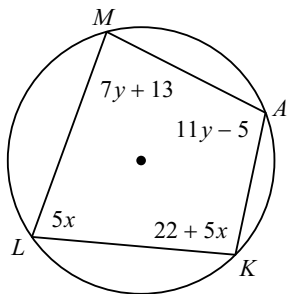
6)

$19x + 13$

R

$7x + 13$ S

Q 90

A

7

Use the Inscribed Quadrilateral-Opposite Angles Theorem to set up and solve a system of equations to find the value of *x* and *y*.

7)

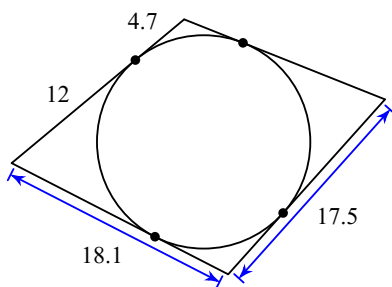M

$7y + 13$

$11y - 5$ A

$5x$

L $22 + 5x$

K

$x = 15,\ y = 10$

The Tangent Segment Theorem states: "If two segments are drawn from the same point on the exterior of a circle, then the tangent segments are congruent."
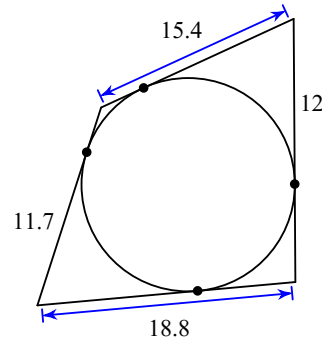
Consider the quadrilateral shown, which is circumscribed about a circle. Use the Tangent Segment Theorem to determine the perimeter of each quadrilateral.

8)

4.7

12

18.1

17.5

68.4

9)

15.4

12

11.7

18.8

68.4