Name _____

Math 3 Unit 6: Circles

		March 27	March 28	March 29
		● Arc length and area of sector HW: 6.1	● Equation of a circle HW: 6.2	No School - Teacher Work Day
April 1 ● Inscribed angles HW: 6.3	**April 2** ● Chords HW: 6.4	**April 3** ● QUIZ!! ● Tangents HW: 6.5	**April 4** ● Angles formed by secants, tangents, and chords HW: 6.6	**April 5** ● Lengths formed by secants, tangents, and chords HW: 6.7
April 8 ● Review for test HW: finish review	**April 9** ● TEST!!!	**April 10** ● Evaluate Piecewise	**April 11** ● Graph Piecewise	**April 12** ● QUIZ!!!

6.1 - Arc Length and Area of a Sector

Find each requested measurement.

1. radius = 7 ft, central angle = 18°
   Find arc length.

2. radius = 2 in, central angle 240°
   Find area of sector.

3. central angles = 130°, arc length = 14 cm
   Find radius.

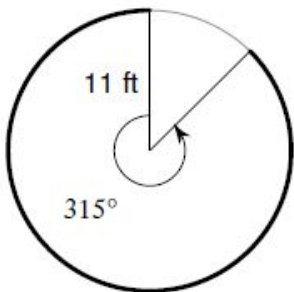4. area of sector = 116π cm², central angle = 110°
   Find diameter.

5. arc length = 8π cm, radius = 20 cm
   Find central angle.
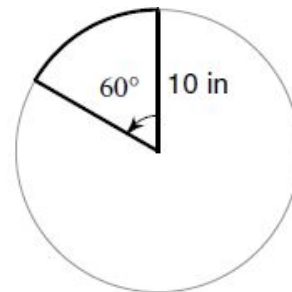
6. radius = 2 m, central angle = 103°
   Find arc length.

7. area of sector = 17π cm², central angle = 75°
   Find radius.

8. circumference = 4π in, central angle = 87°
   Find area of sector.

9. Find area of sector.

10. Find arc length.

Fun With Factoring!

11. $2x^3 + 6x^2$

12. $x - 4$

13. $3x^2 + 13x - 10$

6.2 - Equation of a Circle

For #1 − 4, determine the equation of a circle with the given center and radius.

1. center: $(-7, 2)$; radius = 5 in

2. center: $(-5, -6)$; radius = 3 ft

3. center: $(0, 7)$; radius = $\sqrt{13}$ km

4. center: $(1, 14)$; radius = 36 cm

5. Find the equation of a circle with center point $(-1, 4)$ and containing the point $(5, -4)$.

For #6 − 9, determine the equation of a circle in standard form. Then determine the center and radius.

6. $x^2 + y^2 - 10x + 8y - 56 = 0$

7. $x^2 + y^2 - 14x + 4y + 35 = 0$

8. $x^2 + y^2 - 2x + 6y - 3 = 0$

9. $x^2 + y^2 + 12x - 45 = 0$

Fun with Factoring

10. $6x^2 - 5x - 25$

11. $4x^2 - 81$

12. $3x - 5$

6.3 - Inscribed Angles

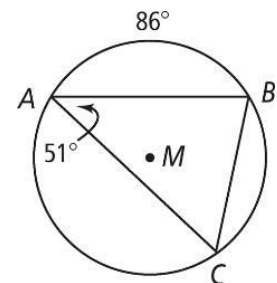*Find the value of each variable. For each circle, the dot represents the center.*

1.

$42°$
$b°$
$a°$
$c°$
$84°$

2.

$a°$
$17°$

3.

$c°$
$a°$
$114°$
$92°$
$b°$
$d°$ $108°$

4.

$a°$
$b°$
$76°$

5.

$122°$
$b°$
$a°$
$c°$

6.

$b°$
$a°$
$78°$
$87°$ $36°$
$c°$

7.

$a°$
$256°$

8.

$224°$
$b°$
$a°$

9.

$b°$
$a°$
$144°$
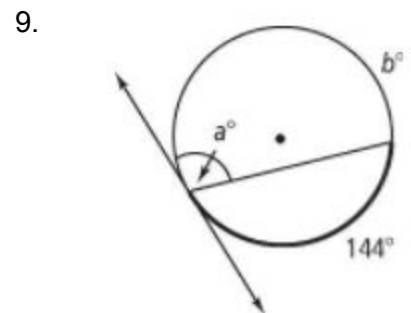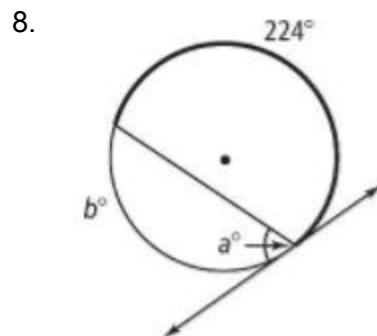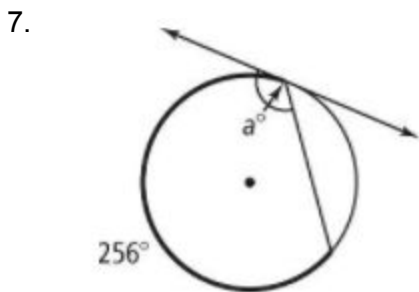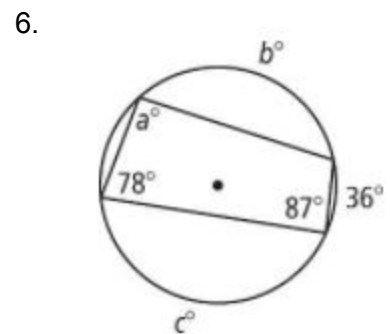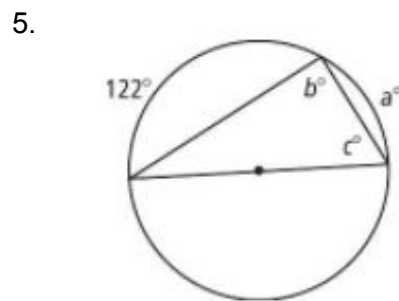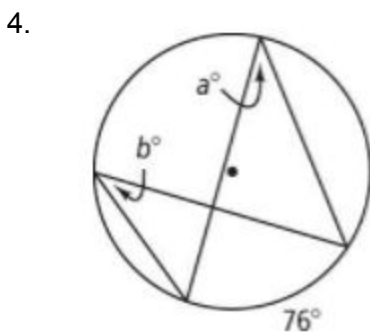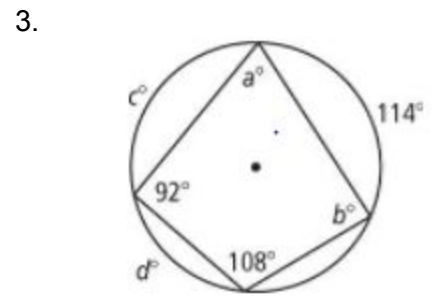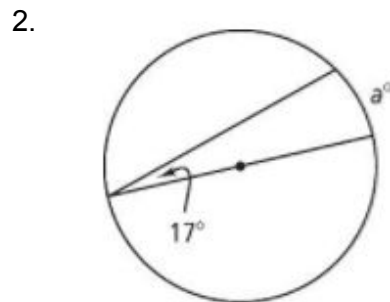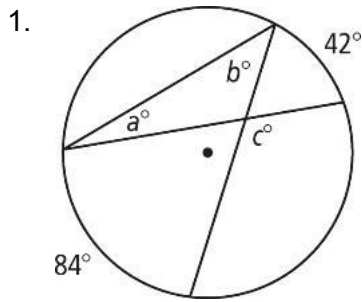
Find each indicated measure for ⊙ M.

10. m∠B

11. m∠C

12. $m\widehat{BC}$

13. $m\widehat{AC}$

$86°$
A
B
$51°$ •M
C

OMG - No Fun with Factoring today!!!! You're welcome.

6.4 - Chords

Solve for the variable.

1.
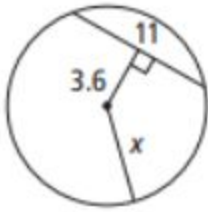
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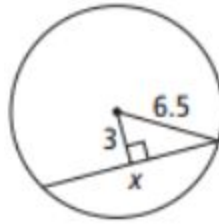
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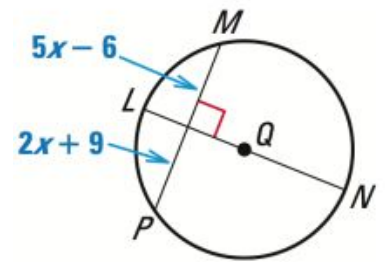
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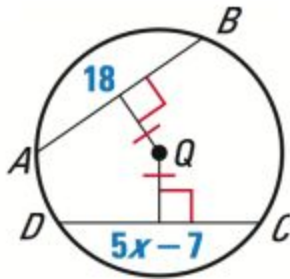
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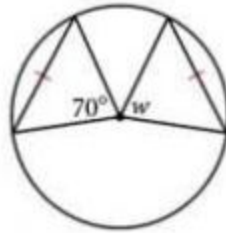
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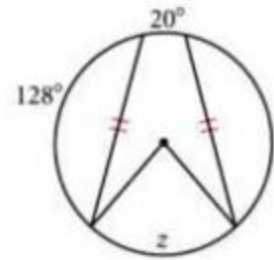
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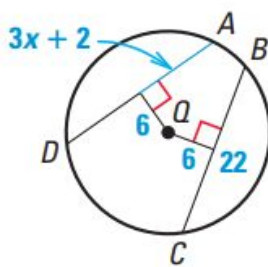
8.
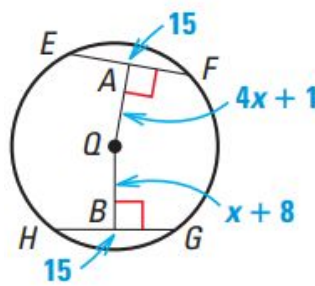
Fun With Factoring!

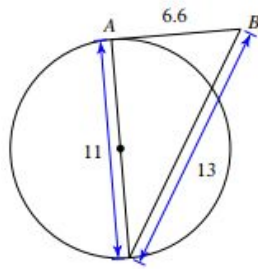9. $7x^2 - 28$

10. $8x^2 + 10x - 7$

11. $3x - 9$

6.5 - Tangents

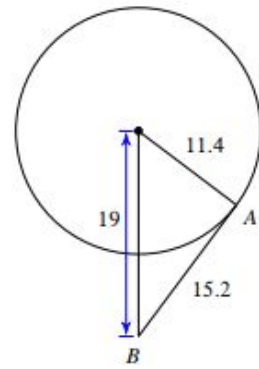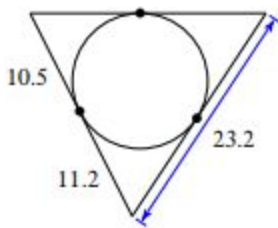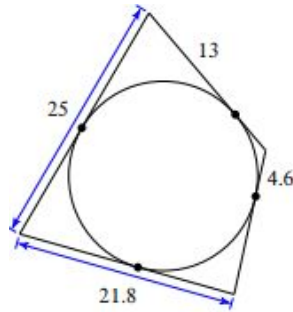*Determine if line AB is tangent to the circle.*

1.
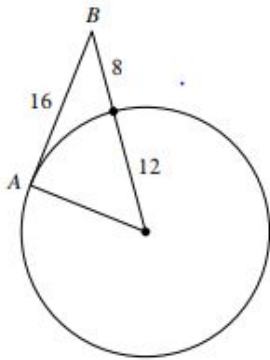
2.

3.

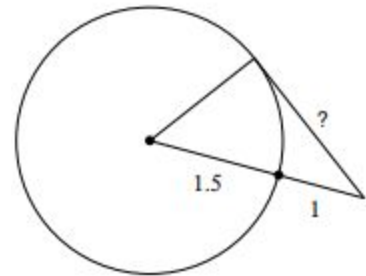*Determine the perimeter of each polygon. Assume lines that appears tangent is tangent.*

4.

5.

6.

Find the indicated side and angle measures. Assume lines that appears tangent is tangent.

7.
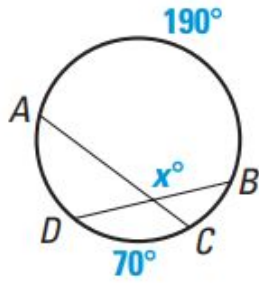

8.

9.
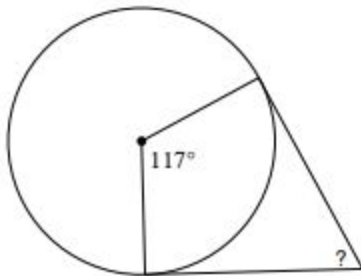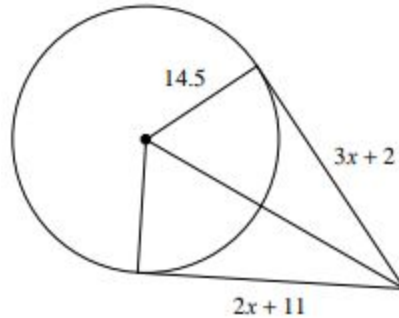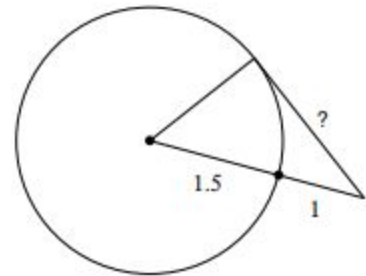
Fun with Factoring

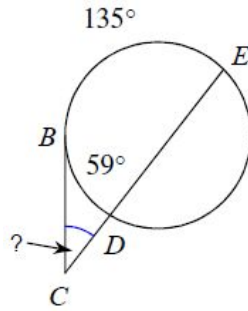10. $25x^2 - 1$

11. $2x^3 + 2x^2 - 4x$

12. $2x^2 - 7x - 15$

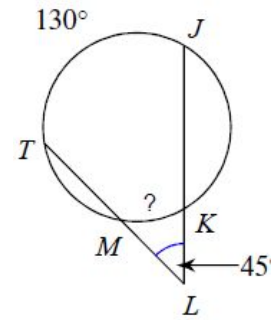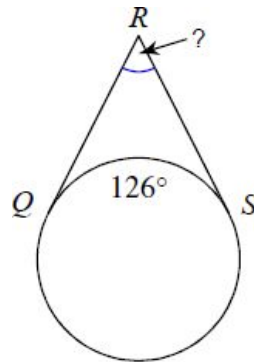## 6.6 - Angles Formed By Secants, Tangents, and Chords

Solve for x.

1.
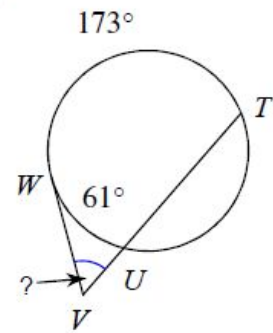

190°
A
$x°$
B
D
C
70°

2.

135°
E
B
59°
?→
D
C

3.

130°
J
T
?
K
M
—45
L

4.

K
?
L
60°
J
M
160°

5.

R
?
Q
126°
S

6.

173°
T
W
61°
?→
U
V

7.

B
66°
$x°$
A
C
70°
D

8.

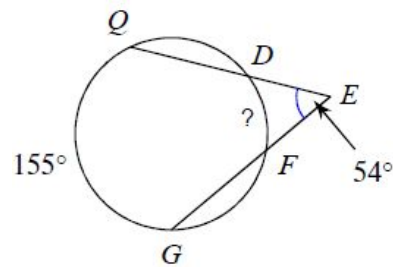Q
D
E
?
155°
F
54°
G

9.

C
B
$x°$
72°
99°
A
D
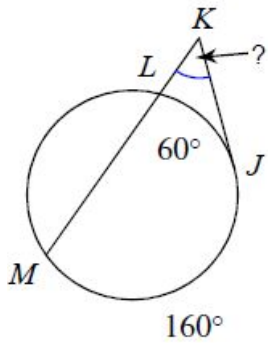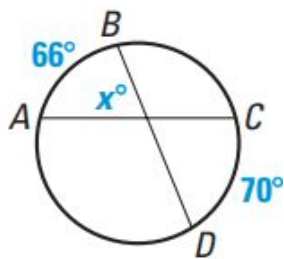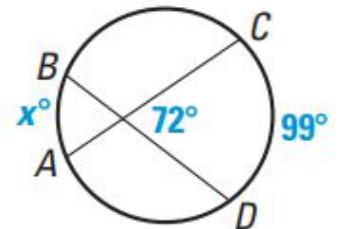
Fun With Factoring!

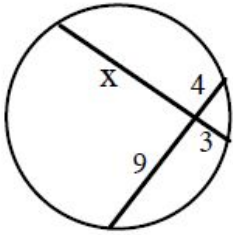**10.** $-3x^2 - 21x - 30$

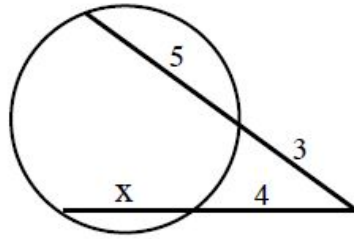**11.** $5x^2 + 45$

12. $x^2 + 3x + 2$

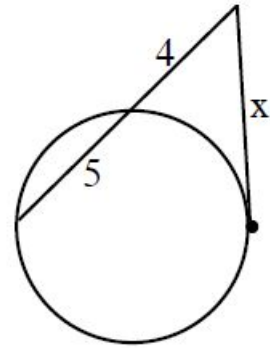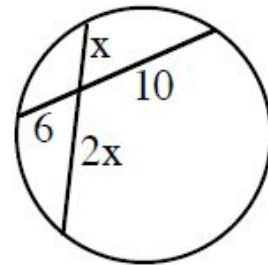## 6.7 - Lengths with Secants, Tangents, and Chords

Determine the value of x.

1.

2.

3.

4.
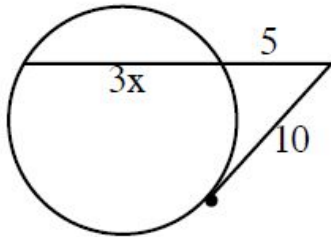
5.
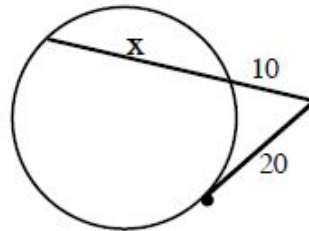
6.

7.

8.

9.

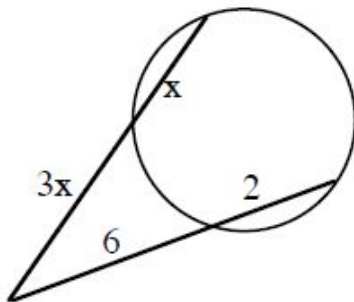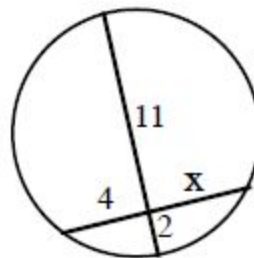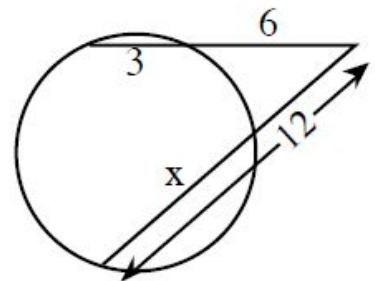## Fun with Factoring!

10. $3x^2 + 26x + 16$

11. $6x + 12$

12. $4x^2 - 15$