Geometry Honors
Unit 9: Circles
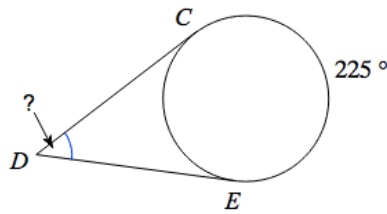9.3 Angles Outside a Circle

Mathematician: _____
Period:_____
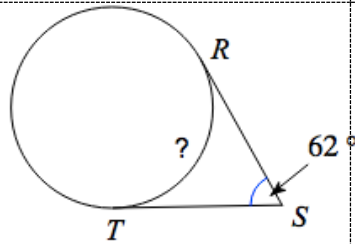
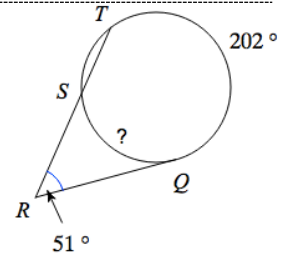## LEVEL: EMERGING

Directions: Find the indicated measure.

1)

C
225 °
?
D
E

? = _____

2)

179 °
G
119 °
D
E
?
F

? = _____
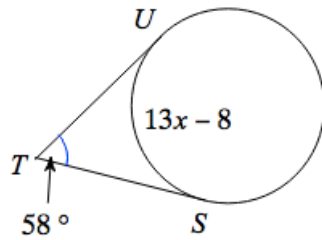
3)

R
?
62 °
T
S

? = _____

4)

T
202 °
S
?
Q
R
51 °

? = _____
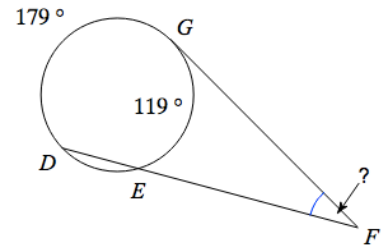
LEVEL: PROFICIENT

Directions: Find the indicated measure.

5)

U
13x − 8
T
58 °
S

x = _____

6)

N
5x − 5
4x + 10
M
L
K
134°

x = _____

7)

N
72°
M
185 °
K
L
7x − 1

x = _____

8)

17x
S
T
5x + 12
R
P
5x + 2
Q

x = _____

9)

5x + 5
V
W
U
235 °

x = _____

10)

35x
22x + 9
330 - 15x

x = _____
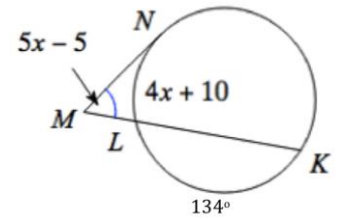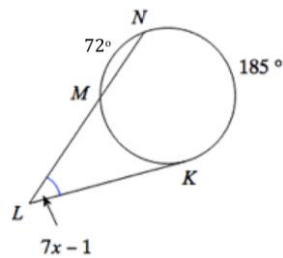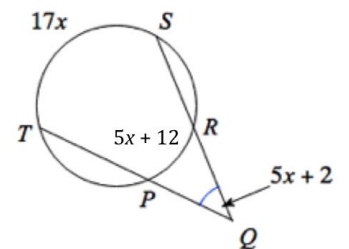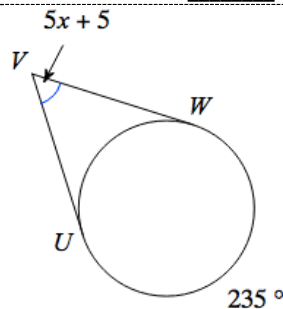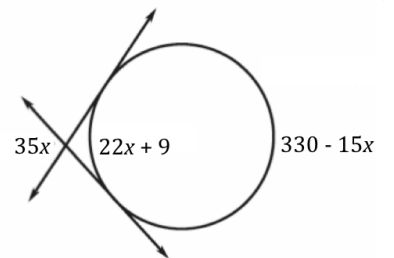
Directions: Find the measure of the indicated measure.

11)

142°

$x^2 + 5x + 8$ $7x + 7$

A D C B

$m\angle ABD = $ _____

12)

$3x^2 + 28$

B   A

$42x - 1$

C

$m\widehat{AC} = $ _____

13)

Q

E

$78x + 3$ $2x^2 + 45$ F

G $39x - 25$

H

$m\widehat{QH} = $ _____

14)

215°   D

$22x - 2$

$x^2 + 18x + 24$ C

B

A
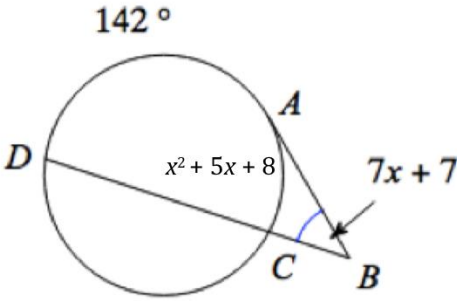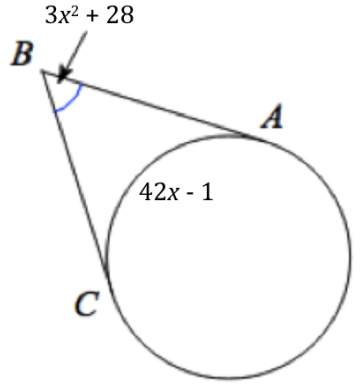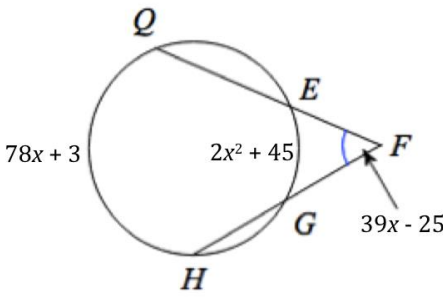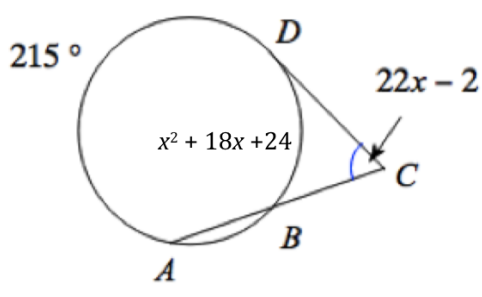
$m\widehat{ACD} = $ _____

15) Describe the error in the diagram.
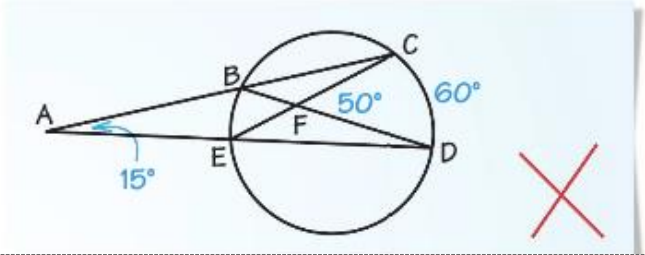
16) In the diagram at the right, television cameras are positioned at A, B, and C to record what happens on sage. The stage is an arc of $\odot A$.

a) Find $m\angle A$, $m\angle B$, and $m\angle C$.

b) The wall is tangent to the circle. Find x without using the measure of $\angle C$.