Geometry Honors
Unit 9: Circles
9.4a/b Tangent and Secant Lines
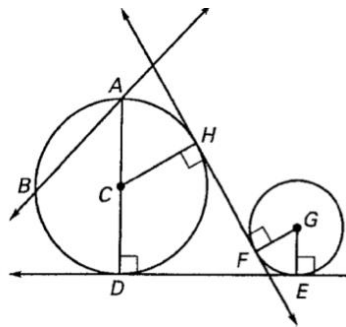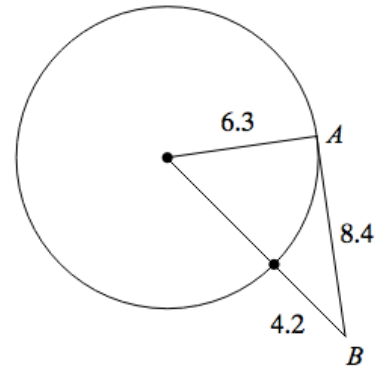
Mathematician: _____

Period:_____

LEVEL: EMERGING

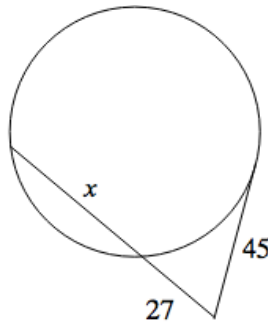1) Identify all of the tangent lines in the given diagram

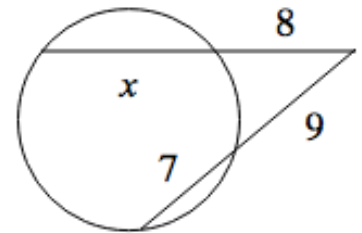2) Directions: Determine if $\overline{AB}$ is tangent to the circle.

6.3

8.4

4.2

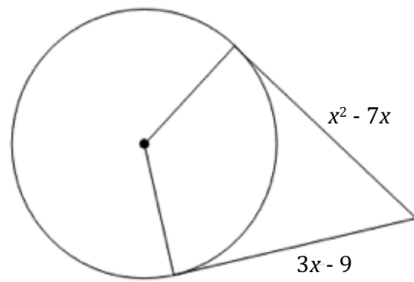Directions: Find the value of x.

3)

x

45

27

4)

8

x

9

7

LEVEL: PROFICIENT

Directions: Solve for x. Assume all lines that appear to be tangent are tangent.

5)

$x^2 - 7x$

$3x - 9$

$x =$ _____

6)

30

18

x

$x =$ _____

7)

6

$x - 6$

5

$x - 3$

$x =$ _____

8)

15x

11x

6

7

$x =$ _____
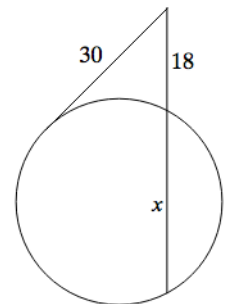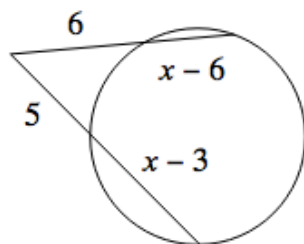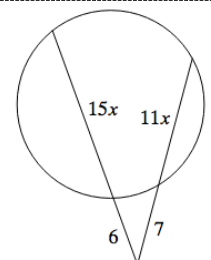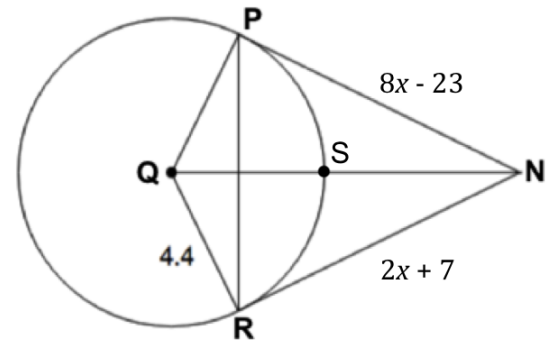
Directions: Find the length of the indicated tangent line. If necessary, round all answers to the nearest thousandth.

9)

$2x^2 - 5x - 12$

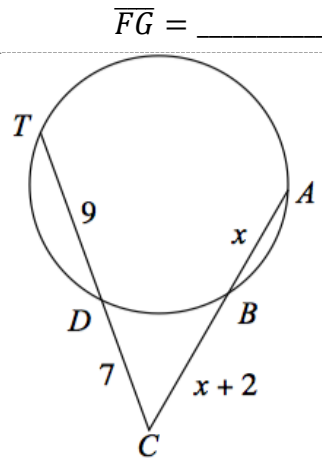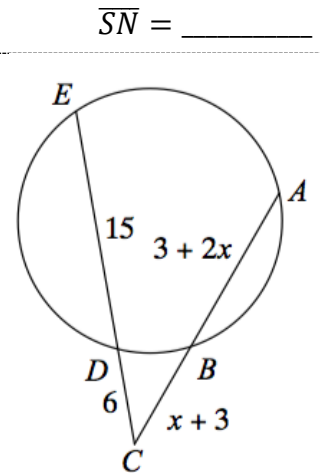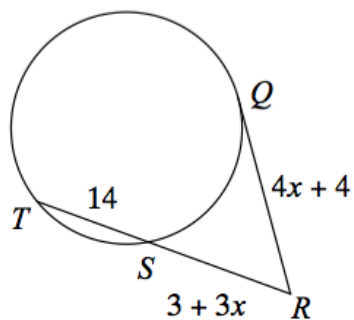$x^2 - 2x + 6$

G
F
H
J

$\overline{FG} =$ _____

10)

P
$8x - 23$
S
Q
N
4.4
$2x + 7$
R

$\overline{SN} =$ _____

11)

T
9
A
x
D
B
7
$x + 2$
C

$x =$ _____ $AC =$ _____

12)

E
A
15
$3 + 2x$
D
B
6
$x + 3$
C

$x =$ _____ $BC =$ _____

13)

Q
$4x + 4$
14
T
S
$3 + 3x$ R

$x =$ _____ $RT =$ _____

14)

F
$x + 8$
E
3x
32
G
D

$x =$ _____ $FE =$ _____