GPS Geometry **WS 5**

Name **Key**

Segments in a Circle Practice

Solve for x. Assume that lines which appear tangent are tangent.

1)
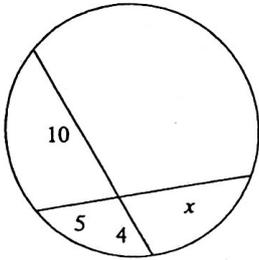
$$10 \cdot 4 = 5 \cdot x$$
$$40 = 5x$$
$$8 = x$$

2)
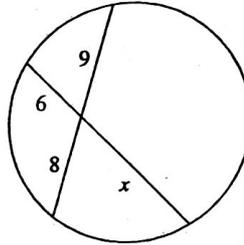
$$6 \cdot x = 9 \cdot 8$$
$$6x = 72$$
$$x = 12$$

3)
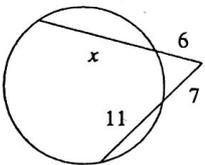
$$6(x+6) = 7(11+7)$$
$$6x + 36 = 126$$
$$6x = 90$$
$$x = 15$$

4)
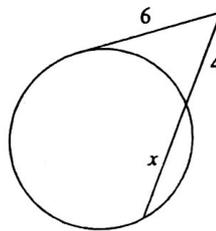
$$6^2 = 4(x+4)$$
$$36 = 4x + 16$$
$$20 = 4x$$
$$5 = x$$

5)
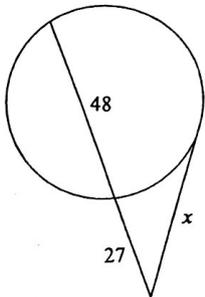


$$x^2 = 27(48+27)$$
$$x^2 = 2025$$
$$x = 45$$

6)
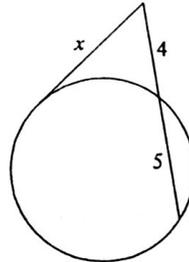
$$x^2 = 4(4+5)$$
$$x^2 = 36$$
$$x = 6$$

7)
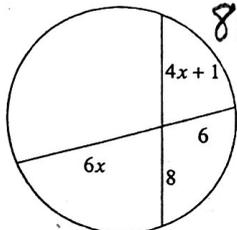
$$8(4x+1) = 6(6x)$$
$$32x + 8 = 36x$$
$$8 = 4x$$
$$2 = x$$

8)
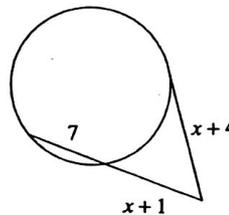
$$(x+4)^2 = (x+1)(7+x+1)$$
$$x^2 + 8x + 16 = (x+1)(x+8)$$
$$x^2 + 8x + 16 = x^2 + 9x + 8$$
$$-x^2 - 8x - 8 \quad -x^2 - 8x + 8$$
$$8 = x$$

$a° = \frac{1}{2}(180-112)$ 112 $b° = \frac{1}{2}(176) = 88$ $c = 2(\ldots)$
$= 34$ $= 52$

9)
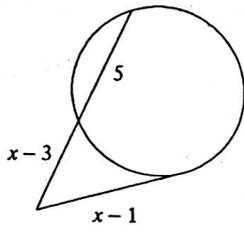
$(x-7)^2 = (x-3)(x-3+5)$

$x^2 - 2x + 1 = (x-3)(x+2)$

$x^2 - 2x + 1 = x^2 - x - 6$

$x^2 + 2x + 6 = x^2 - 2x + 6$

$7 = x$

10)
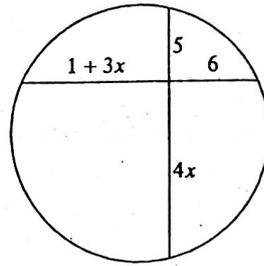
$6(1+3x) = 5(4x)$

$6 + 18x = 20x$

$6 = 2x$

$3 = x$

11)
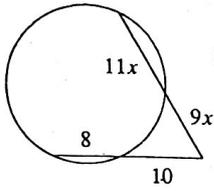
$9x(9x+1) = 10(10+8)$

$180x^2 = 180$

$x^2 = 1$

$x = 1$

12)

$15x(2x) = 10(18)$

$180x^2 = 180$

$x^2 = 1$

$x = 1$

13)
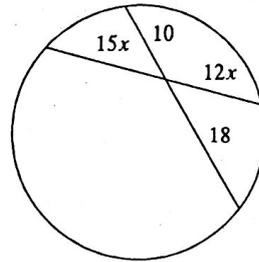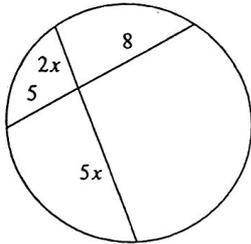
$5(8) = 2x(5x)$

$40 = 10x^2$

$4 = x^2$

$2 = x$

14)
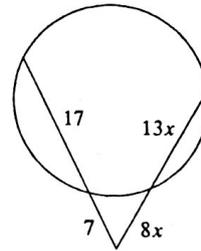
$7(7+17) = 8x(8x+13x)$

$168 = 168x^2$

$1 = x^2$

$1 = x$

Find the measure of the line segment indicated. Assume that lines which appear tangent are tangent.

15) Find LH
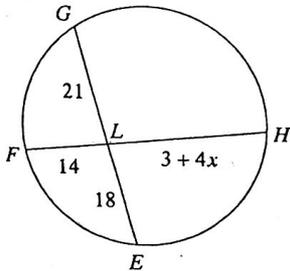

$21(18) = 14(3+4x)$

$378 = 42 + 56x$

$336 = 56x$

$6 = x$

$LH = 3 + 4x$

$= 3 + 4(6)$

$= 27$

16) Find AB
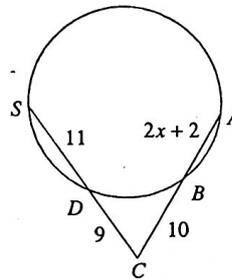
$9(9+11) = 10(10+2x+2)$

$180 = 120 + 20x$

$60 = 20x$

$3 = x$

$AB = 2x + 2$

$= 2(3) + 2$

$= 8$