Secondary Math II
Unit 11 Day 5 Homework

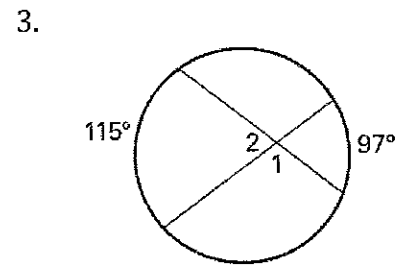**Find the measure of each numbered angle or arc.**

1.

$\angle 1 = \frac{1}{2}(222° - 138°)$

$\angle 1 = 42°$

2.

$m\,\widehat{1} = 164°$

$m\,\widehat{2} = 196°$

3.

$\angle 2 = \frac{1}{2}(97 + 115)$

$\angle 2 = 106°$

$\angle 1 = 74°$

4. $m\widehat{FH} = 102°$

$m\,\widehat{HGF} = 258°$

5. $m\widehat{JKL} = 240°$

6.
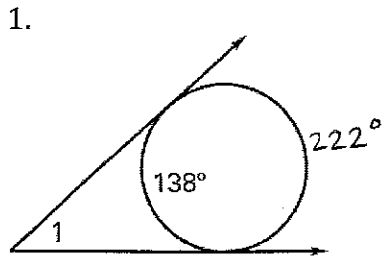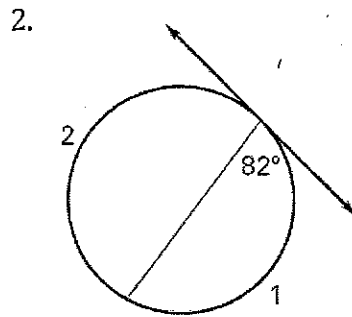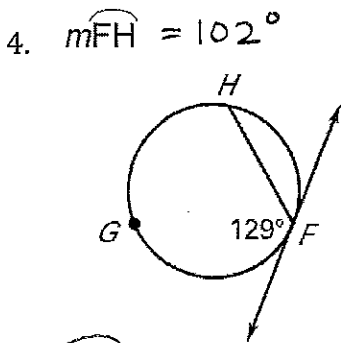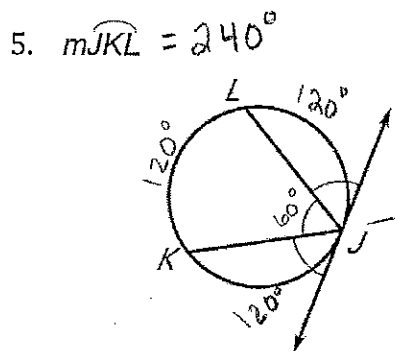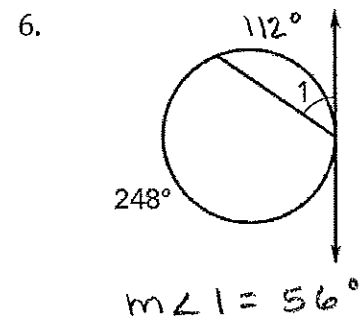
$m\angle 1 = 56°$

Find the value of X

7.
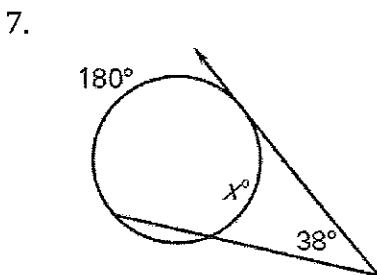
$38° = \frac{1}{2}(180° - x)$

$76 = 180° - x$

$-104 = -x$

$x = 104$

8.
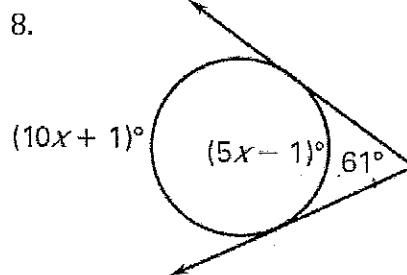
$15x = 360°$

$x = 24$
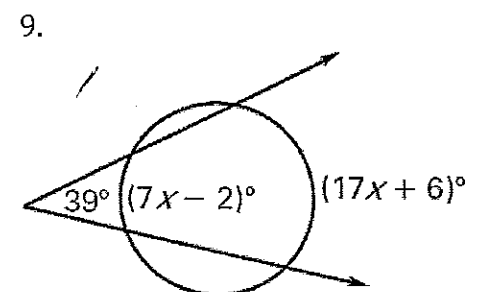
or

$61 = \frac{1}{2}(10x+1 - 5x+1)$

$122 = 5x + 2$

$120 = 5x$

$x = 24$

9.

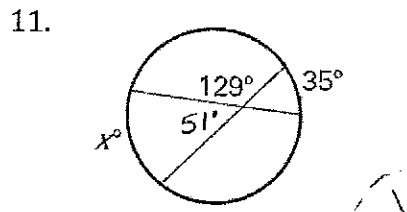$39 = \frac{1}{2}(17x + 6 - 7x + 2)$

$78 = 10x + 8$

$70 = 10x$

$x = 7$

10.

$(13x - 6)°$

$(5x + 14)°$

$54°$
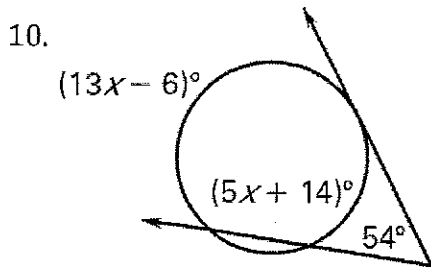
$$54 = \frac{1}{2}(13x - 6 - 5x - 14)$$

$$108 = 8x - 20$$

$$128 = 8x$$

$$x = 16$$

11.

$129°$ $35°$

$51°$

$x°$

$$51° = \frac{1}{2}(x + 35)$$

$$102 = x + 35$$

$$x = 67$$

12.

$11x°$

$(9x + 4)°$

$(x^2)°$
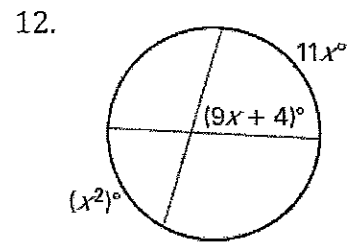
$$9x + 4 = \frac{1}{2}(x^2 + 11x)$$

$$18x + 8 = x^2 + 11x$$

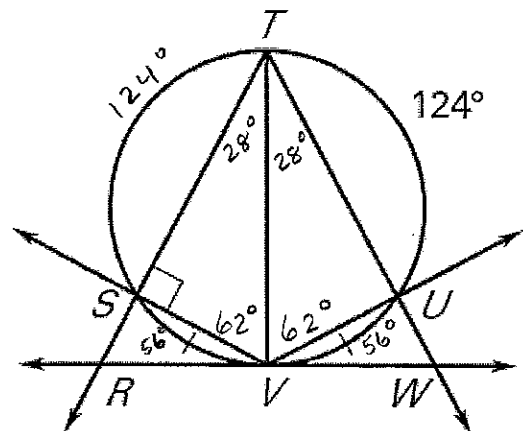$$x^2 - 7x - 8 = 0$$

$$(x - 8)(x + 1) = 0$$

$$x = 8 \quad \cancel{x = -1}$$

**Use the information given in the diagram to find the measure.**

13. $m\widehat{TV}$ $180°$

14. $m\widehat{SV}$ $56°$

15. $m\angle STU$ $56°$

16. $m\angle VWU$ $62°$

(Diagram: circle with points T at top, S on left, U on right, R, V, W along bottom line; labeled angles $124°$, $124°$, $28°$, $28°$, $62°$, $62°$, $56°$, $56°$)

17. **Theater:** A play is being presented on a circular stage. The two main characters are at positions A and B at the back of the stage. Use the diagram to answer the following questions.

(Diagram: circle with center C, points B, A on left, D on circle, E outside right; $80°$, $38°$)
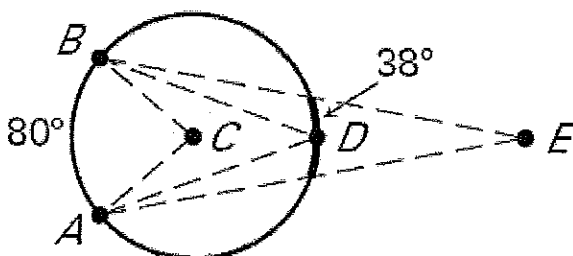
what is the measure of

$$\angle C = 80°$$

$$\angle D = 40°$$

$$\angle E = \frac{1}{2}(80 - 38)$$

$$\angle E = 21°$$