

**Math 3**  
**Unit 6 Day 8 CW**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

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

1.  $a = 42 \div 2 = 21^\circ$   
 $b = 84 \div 2 = 42^\circ$   
 $c = 190 - 21 - 42 = 117^\circ$

2.  $a = 17 \cdot 2 = 34^\circ$

3.  $a = 190 - 108 = 82^\circ$   
 $b = 190 - 92 = 98^\circ$   
 $c = 360 - 114 - 70 - 74 = 102^\circ$   
 $d = 72 \cdot 2 = 144 - 70 = 74^\circ$   
 $92 \cdot 2 = 184 - 114 = 70^\circ$

4.  $a + b = 76 \div 2 = 38^\circ$

5.  $a = 190 - 122 = 68^\circ$   
 $b = 190 \div 2 = 95^\circ$   
 $c = 122 \cdot 2 = 244^\circ$

6.  $a = 190 - 97 = 93^\circ$   
 $b = 78 \cdot 2 = 156 - 76 = 80^\circ$   
 $c = 93 \cdot 2 = 186 - 96 = 90^\circ$

**Directions:** Find the value of each variable. Lines that appear to be tangent are tangent.

7.  $a = 256 \div 2 = 128^\circ$

8.  $a = 136 \div 2 = 68^\circ$   
 $b = 360 - 224 = 136^\circ$

9.  $b = 360 - 144 = 216^\circ$   
 $a = 216 \div 2 = 108^\circ$

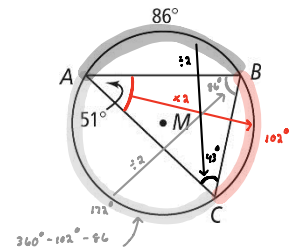
**Directions:** Find each indicated measure for  $\odot M$ .

10.  $m\angle B = 86^\circ$

11.  $m\angle C = 43^\circ$

12.  $m\widehat{BC} = 102^\circ$

13.  $m\widehat{AC} = 172^\circ$



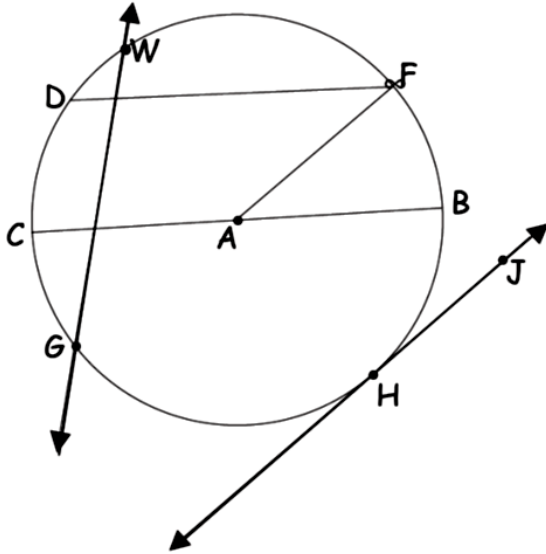
**Directions:** Find the value of each variable. For each circle, the dot represents the center.

14.  $a = 68 \div 2 = 34^\circ$   
 $b = 56 \div 2 = 28^\circ$   
 $c = 122 \div 2 = 61^\circ$

15.  $a = 38 \div 2 = 19^\circ$   
 $b = 176 \div 2 = 88^\circ$   
 $c = 360 - 176 - 76 = 108^\circ$

16.  $d = 190 - 110 = 80^\circ$   
 $a = 70 \div 2 = 35^\circ$   
 $b = 110 \div 2 = 55^\circ$   
 $c = 104 \div 2 = 52^\circ$   
 $e = 76 \div 2 = 38^\circ$

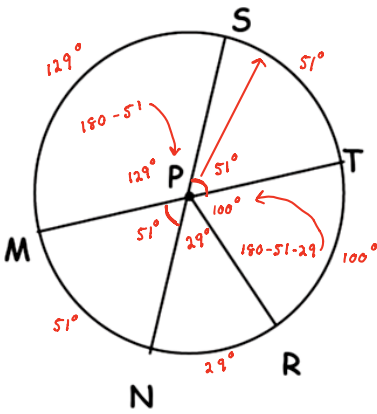
Definitions, Angle, Arc Worksheet



For CIRCLE A Identify the following:

1.  $\overline{AB}$  Radius
2.  $\overline{DF}$  Chord
3.  $\overline{WG}$  Secant
4.  $\overline{HJ}$  Tangent
5. point H Point of Tangency
6.  $\overline{CB}$  Diameter / Chord
7. point A Center

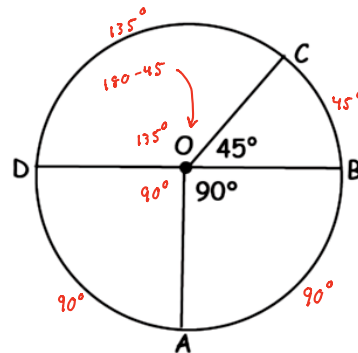
8. Circle P with  $m \angle NPR = 29^\circ$  and  $m \angle SPT = 51^\circ$   
Determine the **degree of each arc** and the **type (major, minor, semi-circle)**.



- a)  $m \widehat{NR} = 29^\circ$  type Minor
- b)  $m \widehat{ST} = 51^\circ$  type Minor
- c)  $m \widehat{TSR} = 260^\circ$  type Major
- d)  $m \widehat{MST} = 180^\circ$  type Semi-Circle

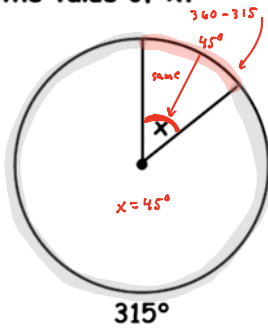
9 - 12 refer to  $\odot O$ . Find the measure of each arc.

9.  $m \widehat{AB} = 90^\circ$
10.  $m \widehat{CD} = 135^\circ$
11.  $m \widehat{AC} = 135^\circ$
12.  $m \widehat{ADC} = 225^\circ$

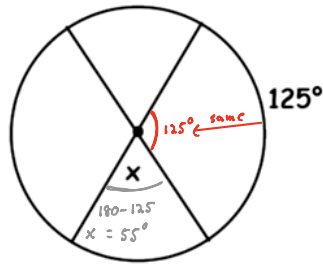


Find the value of  $x$ .

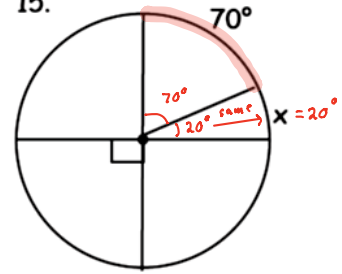
13.



14.



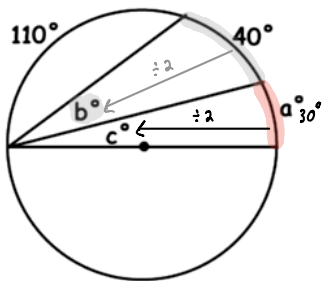
15.



~~16. At ten o'clock the hands of a clock form an angle of \_\_\_\_\_ degrees.~~

~~17. At seven o'clock the hands of a clock form an angle of \_\_\_\_\_ degrees.~~

18.

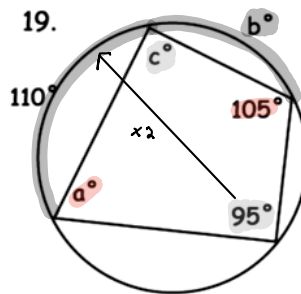


$$a = \frac{180 - 110 - 40}{2} = 30^\circ$$

$$b = 20^\circ$$

$$c = 15^\circ$$

19.

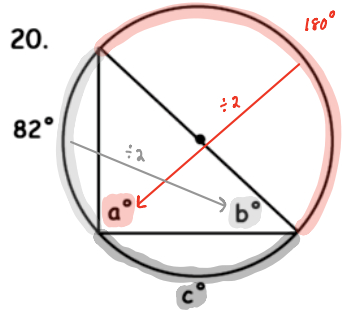


$$a = \frac{180 - 105}{2} = 75^\circ$$

$$b = 80^\circ$$

$$c = 85^\circ$$

20.

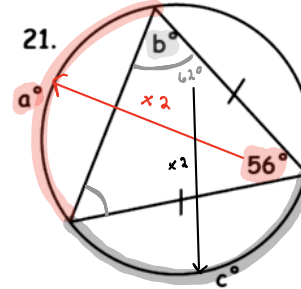


$$a = 90^\circ$$

$$b = \frac{82 \div 2}{2} = 41^\circ$$

$$c = \frac{180 - 82}{2} = 98^\circ$$

21.

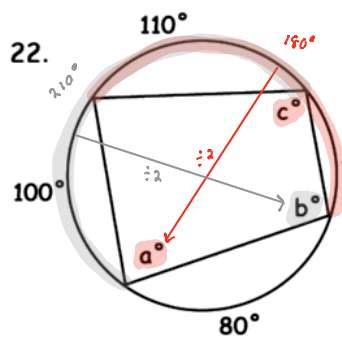


$$a = \frac{56 \cdot 2}{2} = 112^\circ$$

$$b = \frac{180 - 56}{2} = 62^\circ$$

$$c = 62 \cdot 2 = 124^\circ$$

22.

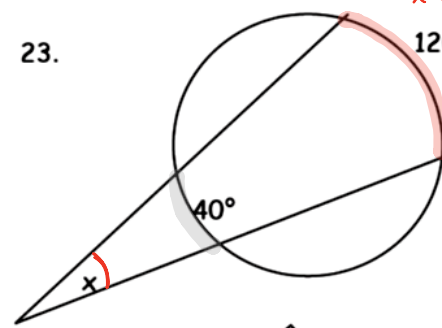


$$a = \frac{180 \div 2}{2} = 90^\circ$$

$$b = \frac{210 \div 2}{2} = 105^\circ$$

$$c = \frac{180 - 90}{2} = 90^\circ$$

23.



$$x = \frac{1}{2}(LA - SA)$$

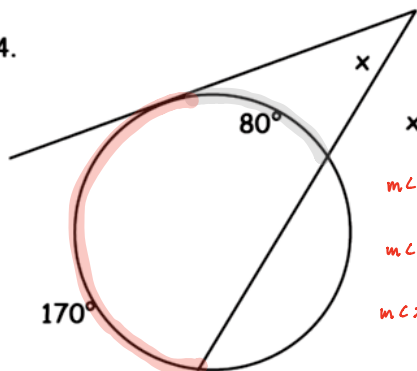
$$x = 40^\circ$$

$$m\angle x = \frac{1}{2}(120 - 40)$$

$$m\angle x = \frac{1}{2}(80)$$

$$m\angle x = 40^\circ$$

24.



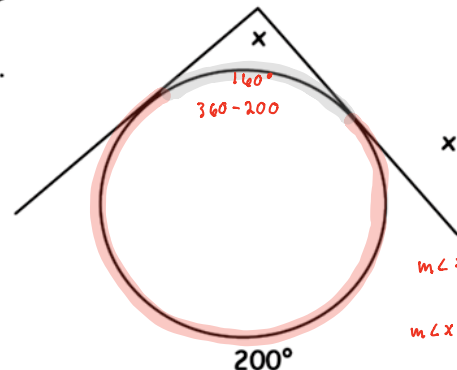
$$x = 45^\circ$$

$$m\angle x = \frac{1}{2}(170 - 80)$$

$$m\angle x = \frac{1}{2}(90)$$

$$m\angle x = 45^\circ$$

25.



$$x = 20^\circ$$

$$m\angle x = \frac{1}{2}(200 - 160)$$

$$m\angle x = \frac{1}{2}(40)$$

$$m\angle x = 20^\circ$$