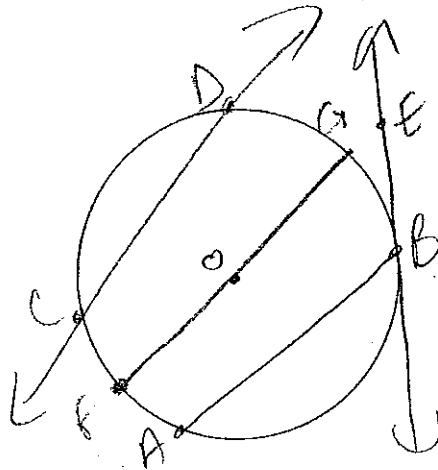


Name Answer Key
 Date _____
 Period _____

Geometry Worksheet 9-1 to 9-2

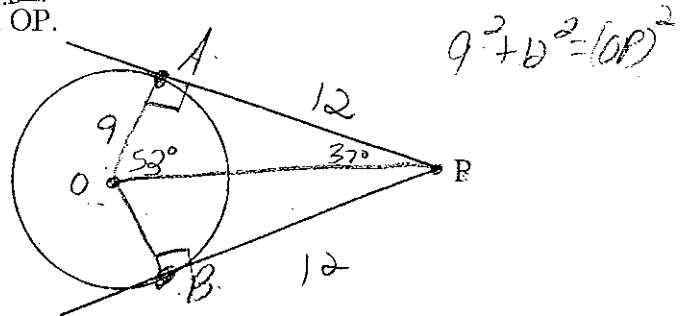
Sketch and label the following.

1. chord AB
2. secant CD
3. tangent BE
4. diameter FG
5. radius OG



6. \overline{PA} and \overline{PB} are tangents to circle O. Draw \overline{OA} , \overline{OB} , and \overline{OP} .

- a) $m\angle OAP = \underline{90^\circ}$
- b) If $PA = 12$ then $PB = \underline{12}$
- c) If $OA = 9$ then $OB = \underline{9}$
- d) Find $OP = \underline{15}$

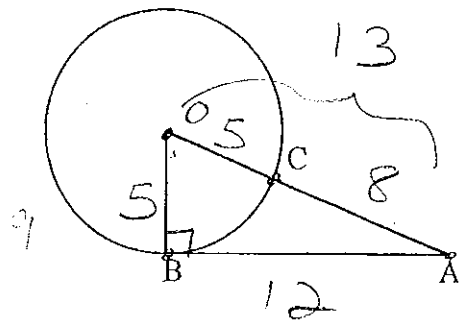


e) If $\angle AOP = 53^\circ$ find: $m\angle APO = \underline{37^\circ}$ $m\angle BOP = \underline{53^\circ}$ $m\angle APB = \underline{74^\circ}$ $m\angle AOB = \underline{106^\circ}$

7. \overline{AB} is tangent to circle O.

- a) If $OB = 5$, $CA = 8$ find $AB = \underline{12}$
- b) If $AB = 12$, $OB = 9$ find $OA = \underline{15}$
 $CA = \underline{6}$

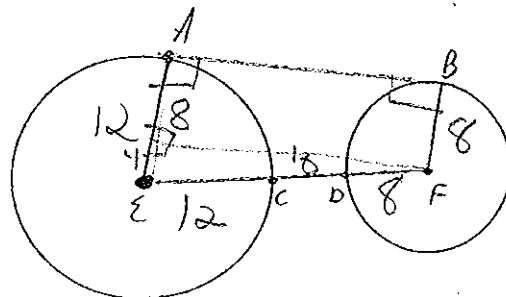
$$5^2 + (BA)^2 = 13^2$$



$$9^2 + 12^2 = (OA)^2$$

8. \overline{AB} is a common tangent. $AE = 12$, $BF = 8$, $CD = 10$.

- a) Find $EF = \underline{30}$
- b) Find $AB = \underline{29.7}$



$$4^2 + x^2 = 30^2$$

$$x^2 = 900 - 16$$

\overline{ST} is a common tangent and the circles are tangent to each other.
Write answers to the nearest hundredth.

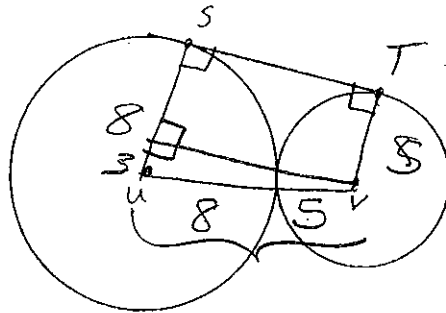
9. If the radii are 8 and 5 find:

$$UV = \underline{13}$$

$$ST = \underline{12.6}$$

$$3^2 + x^2 = 13^2$$

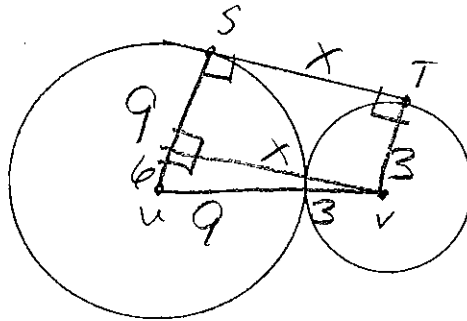
$$x^2 = 160$$



10. If the radii are 9 and 3 find:

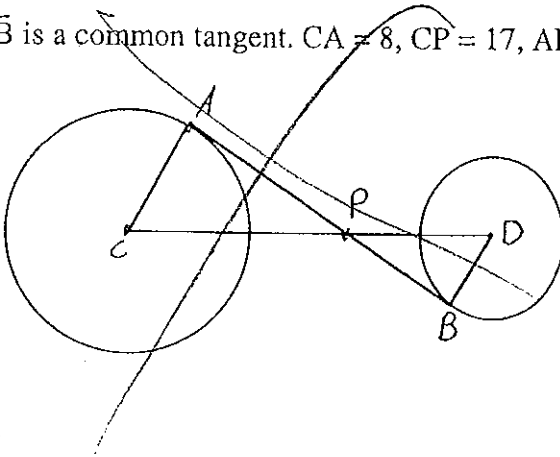
$$UV = \underline{12}$$

$$ST = \underline{10.4}$$



$$6^2 + x^2 = 12^2$$

11. \overline{AB} is a common tangent. $CA = 8$, $CP = 17$, $AP = 15$, $BD = 5$. Find $PD = \underline{\hspace{2cm}}$



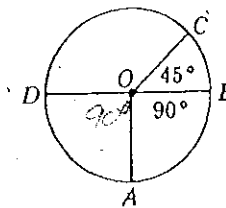
Arcs, Central Angles, and Chords

For use after Section 9-4

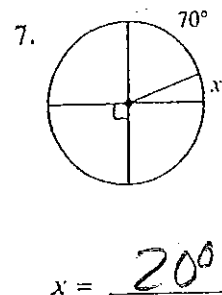
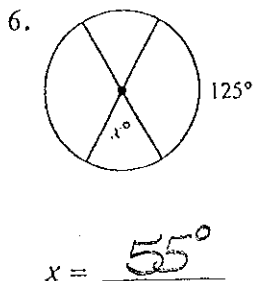
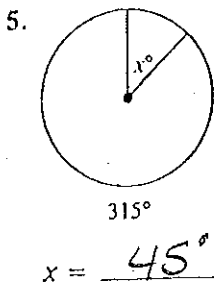
Exercises 1-4 refer to $\odot O$. Find the measure of each arc.

1. $\widehat{AB} = 90^\circ$
 3. $\widehat{AC} = 135^\circ$

2. $\widehat{CD} = 135^\circ$
 4. $\widehat{ADC} = 225^\circ$



Find the value of x . Each angle shown is a central angle.



8. At ten o'clock the hands of a clock form an angle of _____ $^\circ$.
 9. At seven o'clock the hands of a clock form an angle of _____ $^\circ$.
 10. If the hands of a clock form an angle of 30° , the time is _____ o'clock.

\overline{CD} is a diameter of $\odot O$. Complete.

11. $EB = 12$

12. $OB = 8\sqrt{3}$

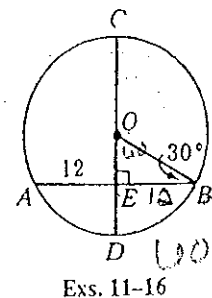
13. $m\widehat{DB} = 60$

14. $m\widehat{AC} = 120^\circ$

15. $m\widehat{AB} = 120^\circ$

16. $DE = 8\sqrt{3} - 4\sqrt{3}$

4



$OE = \frac{12}{\sqrt{3}} = 4\sqrt{3}$

Complete. In Exercises 19 and 20, O is the center of the circle.

