Name_____ Date _____

10.1 Puzzle Time

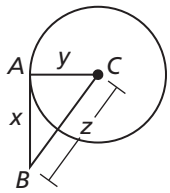
Why Did The Scientists Stay At The Math Teacher's House?

Write the letter of each answer in the box containing the exercise number.

Complete the sentence.

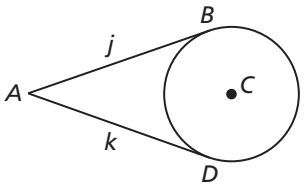
1. Coplanar circles that intersect in one point are called _____ circles.
2. A chord is a segment whose _____ are on a circle.
3. A diameter is a(n) _____ that contains the center of the circle.
4. A(n) _____ is a line that intersects a circle in two points.
5. A tangent is a line in the plane of a circle that intersects the circle in exactly one point, the point of _____.
6. Coplanar circles that have a common center are called _____ circles.
7. A line or segment that is tangent to two coplanar circles is called a(n) _____ tangent.
8. In a plane, a line is tangent to a circle if and only if the line is _____ to a radius of the circle at its endpoint on the circle.
9. Tangent segments from a common external point are _____.

Use the diagram.



10. Given $x = 28, y = 45,$ and $z = 53,$ is $\overline{AB}$ tangent to $\odot C$? yes or no?
11. Find the radius y of $\odot C,$ given that $x = 12$ and $z = y + 8.$

In the diagram, points *B* and *D* are points of tangency. Find the value of *x*.



12. $j = 3x + 1, k = 4x - 5$
13. $j = x^2 - 2x + 3, k = 4x - 6$
14. $j = 8x + 5, k = 4x + 6$

Answers

G.	yes		
B.	connected		
A.	lines	**I.**	chord
E.	common	**C.**	radius
P.	perpendicular		
M.	cotangent		
S.	tangent	**L.**	urgency
E.	0.25	**H.**	secant
U.	consistent	**R.**	5
T.	0.5		
N.	endpoints		
A.	no		
W.	congruent		
S.	unique	**R.**	parallel
A.	tangency		
V.	concentric		
N.	8	**R.**	2
I.	3	**M.**	negative
S.	6	**D.**	7

4	14		9	5	12		1	7	11	6	13	2	10		8	3

Name _____ Date _____

10.2 Puzzle Time

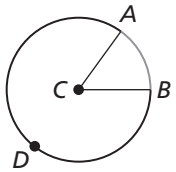
What Fruit Is Always In A Bad Mood?

Circle the letter of each correct answer in the boxes below. The circled letters will spell out the answer to the riddle.

Complete the sentence.

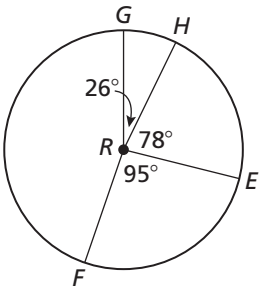
1. A _____ angle of a circle is an angle whose vertex is the center of the circle.
2. The measure of a _____ arc is less than 180°.
3. A _____ is an arc with endpoints that are endpoints of a diameter.
4. The measure of an arc formed by two adjacent arcs is the _____ of the measures of the two arcs.
5. Two circles are congruent circles if and only if they have the same _____.
6. All circles are _____.
7. Two arcs are similar arcs if and only if they have the same _____.

Use the diagram.



8. Name the gray minor arc.
9. Name the black major arc.
10. $m\angle ACB = 72°$; Find the measure of $\overset{\frown}{ADB}$.

Find the measure of the arc using the diagram.



11. $\overset{\frown}{GHE}$
12. $\overset{\frown}{GFE}$

T	A	H	E	C	R	M	E	A	N	P	B
$\overset{\frown}{AB}$	concentric	central	256°	104°	288°	center point	360°	sum	108°	$\overset{\frown}{ABD}$	$\overset{\frown}{ADB}$
O	**A**	**P**	**T**	**A**	**P**	**I**	**L**	**O**	**S**	**E**	**R**
$\overset{\frown}{AD}$	measure	similar	congruent	single	semicircle	difference	radius	large	199°	minor	$\overset{\frown}{AC}$