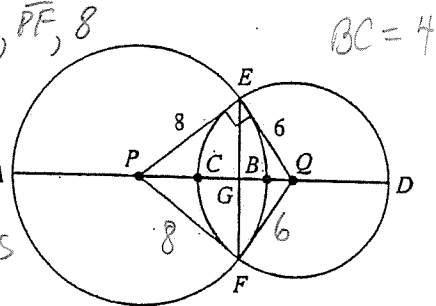
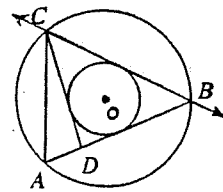


1. Name a radius of $\odot P$. Find its length. $\overline{PA}, \overline{PR}, \overline{PB}, \overline{PF}, 8$
2. Find the length of a radius of $\odot Q$. 6
3. $BQ = ?$ 2 $(10-8)$
4. $CP = ?$ 4 $(10-6)$
5. Name a segment that is a chord of both circles. \overline{EF}
6. What kind of triangle is $\triangle PEF$? $isosceles$
7. Explain why $\triangle PEQ \cong \triangle PFQ$. hyp, leg, SSS, SAS
8. Explain why $\triangle GEQ \cong \triangle GFQ$. SAS



9. Name a triangle that is inscribed in a circle. $\triangle ABC$
10. Name a triangle that is circumscribed about a circle. $ABCD$
11. Name a secant line and the circle for which it is a secant.
12. Name a tangent and the circle for which it is a tangent.



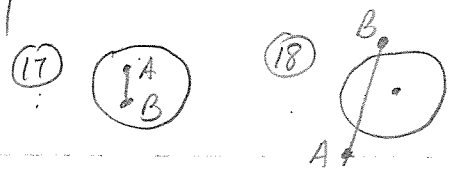
- (11) \overleftrightarrow{BC} , $\odot O$ (larger)
(12) $\overline{BC}, \overline{CD}, \overline{BD}$, $\odot O$ (smaller)

Point P lies outside $\odot O$.

13. How many lines through P are tangents to $\odot O$? 2
14. How many lines through P are secants for $\odot O$? $Infinitely\ many$

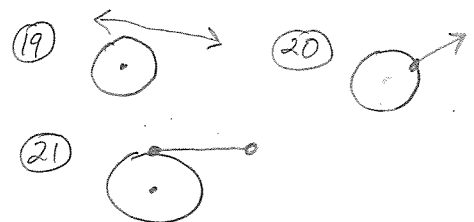
Point Q lies inside $\odot O$.

15. How many lines through Q are tangents of $\odot O$? 0
16. How many lines through Q contain a diameter of $\odot O$? 1



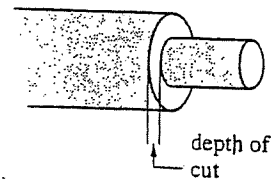
Draw a circle and then complete the figure as indicated.

17. Draw a segment in the interior of the circle that is not a chord.
18. Draw a segment that intersects the circle in two points, but is not a diameter, or chord.
19. Draw a line that is neither a secant nor a tangent line.
20. Draw a ray that intersects the circle in only one point but is not a tangent.
21. Draw a segment that has one endpoint on the circle but is not a chord.



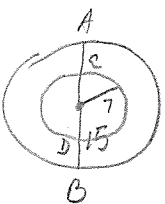
Determine whether each statement is always, sometimes, or never true.

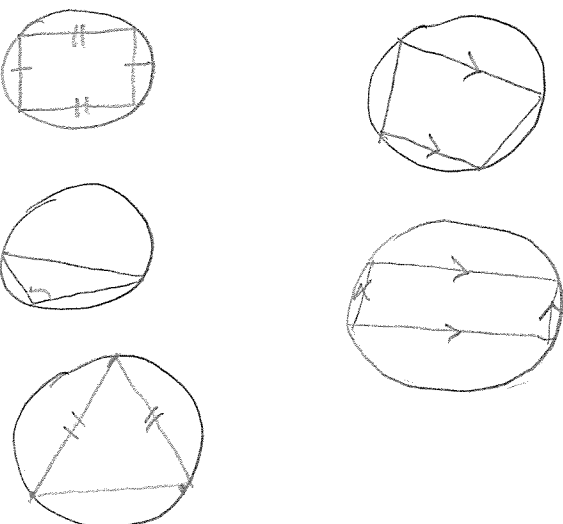
22. A chord is a diameter. $sometimes$
23. A secant to a circle is a tangent to the same circle. $never$
24. A segment with one endpoint the center of a circle is a radius of the circle. $sometimes$
25. A line that passes through a point inside a circle is a secant for that circle. $always$
26. A line that lies in a plane that is tangent to a sphere is a tangent line of the sphere. $sometimes$
27. A handle 0.41 cm in diameter is reduced to a diameter of 0.34 cm as shown to the right. Find the depth of cut. $0.035cm$
28. Give a convincing argument that if a plane and a sphere intersect, the intersection is a single point, or a circle.

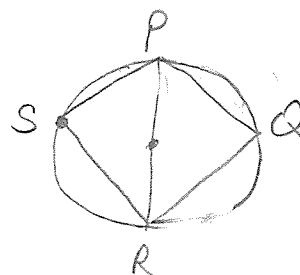


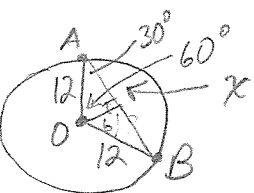
A plane tangent to a sphere intersects it in one point.
If the sphere intersects a plane in more than one point, the distance from the center to any point is the same (equal radii). The \perp distance from the center to the plane at a point D is the same. Infinitely many right \triangle s can be formed, all congruent. The legs in the plane all have pt D and are \cong . The intersection is a circle.

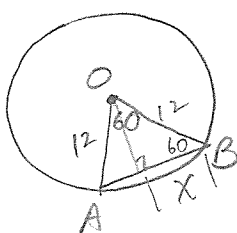
Circles ~ Basic Terms (KEY)

29  $AC = 15 - 7 = 8$

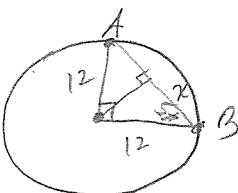
30 



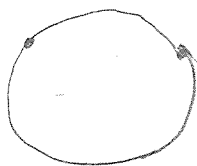
31  $x = 6\sqrt{3}$
 $AB = 12\sqrt{3}$

32  $x = 6$
 $AB = 12$

33 $AB = 24$

34  $45-45-90 \triangle$

35 the \perp bisector of \overline{AB}



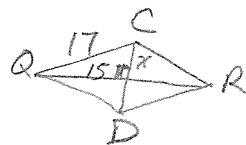
$$x\sqrt{2} = 12$$

$$x = \frac{12\sqrt{2}}{2} = 6\sqrt{2}$$

$$AB = 12\sqrt{2}$$

36 a) A rhombus. All 4 sides \cong .

b) \overline{CD} is a diagonal of rhombus QDRC, and \overline{QR} also. In a rhombus, diagonals are \perp . Since a rhombus is a \square , the diagonals bisect each other, thus, a \perp bisector.

c)  $15^2 + x^2 = 17^2$
 $225 + x^2 = 289$
 $x^2 = 64$
 $x = 8$
 $CD = 16$

37 sometimes
never
sometimes
always