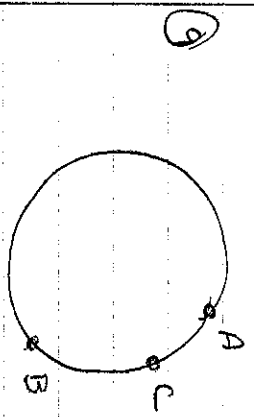
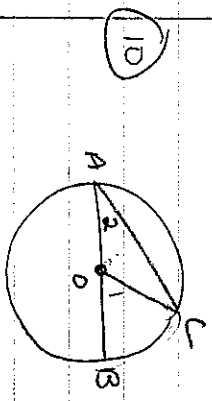
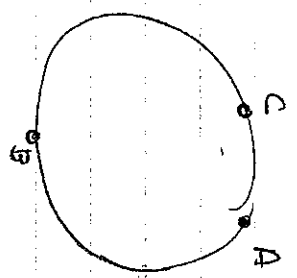


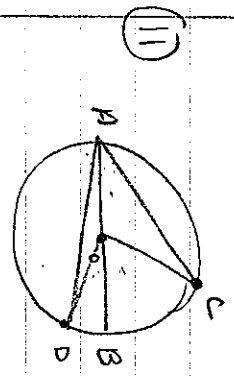
9.3



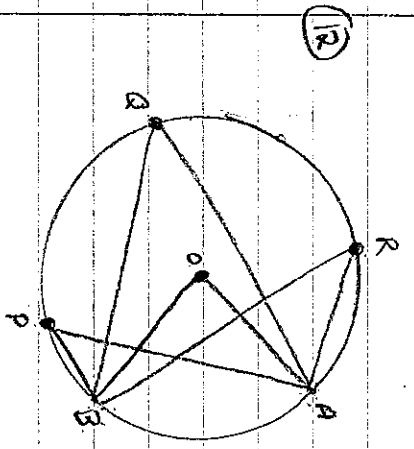
OR



$m\angle B$	$40$	$70$	$56$	$60$	$2x$
$m\angle 1$	$60$	$70$	$56$	$60$	$2x$
$m\angle 2$	$30$	$35$	$28$	$25$	$x$



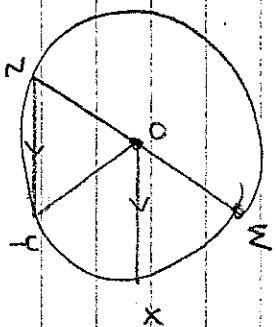
$m\angle B$	$70$	$60$	$46$	$60$	$P$
$m\angle BD$	$32$	$28$	$34$	$44$	$Q$
$m\angle COD$	$100$	$88$	$102$	$104$	$5(P+Q)$
$m\angle CAD$	$50$	$44$	$50$	$52$	



? (13) ?

(14) Given:  $\overline{WZ}$  is diam. of  $\odot O$

Prove:  $\overline{OX} \parallel \overline{ZY}$   
 $\overline{OY} \parallel \overline{XZ}$



1.  $\overline{WZ}$  is diam. of  $\odot O$  1. Given

2. Draw  $\overline{OY}$

3.  $\angle WOX \cong \angle OZY$

4.  $\overline{OZ} \cong \overline{OY}$

5.  $\angle OZY \cong \angle OYZ$

6.  $\angle OYZ \cong \angle XOY$

7.  $\angle WOX \cong \angle XOY$

8.  $\overline{WX} \cong \overline{OY}$

2. Through 2 pts exists 1 line

3.  $\parallel$  lines  $\rightarrow$  corr.  $\angle$ 's  $\cong$

4. Radii of  $\odot \cong$

5. Isosc.  $\Delta$  Thm.

6.  $\parallel$  lines  $\rightarrow$  alt. int.  $\angle$ 's  $\cong$

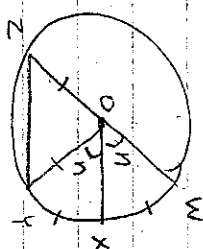
7. + transitive

8. 2 arcs  $\cong$  is central  $\angle$ 's  $\cong$

15) Given:  $\overline{WZ}$  is diam. of  $\odot O$

$$m\widehat{WX} = m\widehat{XY} = n$$

Prove:  $m\angle Z = n$



1.  $\overline{WZ}$  is diam. of  $\odot O$       1. Given

$$m\widehat{WX} = m\widehat{XY} = n$$

2. Draw  $\overline{OX}$

$$3. m\widehat{WX} + m\widehat{XY} = m\widehat{WY}$$

$$4. m\widehat{WY} = 2n$$

$$5. m\angle WYO = 2n$$

$$6. m\angle WYO = m\angle Z + m\angle OYZ$$

$$7. \overline{OZ} \cong \overline{OY}$$

$$8. \angle Z \cong \angle OYZ$$

$$9. m\angle Z = m\angle OYZ$$

$$10. 2m\angle Z = m\angle WYO$$

$$11. 2m\angle Z = 2n$$

$$12. m\angle Z = n$$

2. Through 2 pts. is a line

3. Arc add'n post.

4. Subst.

5. def's meas. arc

6. meas. ext.  $\angle \Delta =$  sum of 2 remote int.  $\angle$ s

7. All rad. of  $\odot \cong$

8. isosc.  $\Delta$  thm.

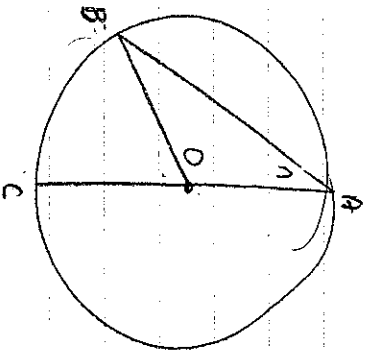
9. def.  $\cong$

10. subst.

11. subst.

12. div. prop. =

16)



if  $m\angle A = 35$

a)  $m\angle B = 35$

$m\angle BDC = 70$

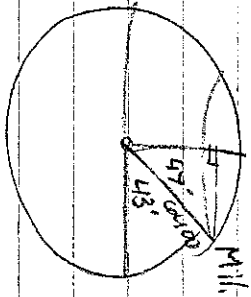
$m\angle C = 70$

b) if  $m\angle A = n$

then  $m\angle B = 2n$

c) if  $m\angle C = 6k$ , then  $m\angle A = 3k$

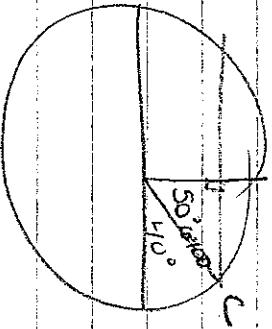
17



$$\sin 47 = \frac{r}{6400}$$

$$4680 \approx r$$

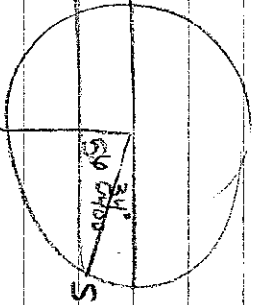
18



$$\sin 50 = \frac{r}{6400}$$

$$4903 \approx r$$

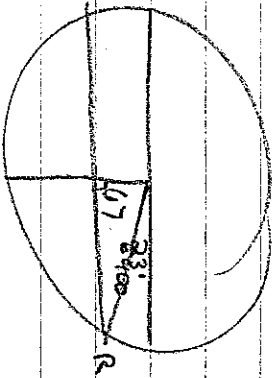
19



$$\sin 31 = \frac{r}{6400}$$

$$3364 \approx r$$

20



$$\sin 67 = \frac{r}{6400}$$

$$5891 \approx r$$



14

1

1

1

1

19.  $90 - 34 = 56$ ;  $\sin 56^\circ = \frac{r}{6400}$ ;  $r = 6400 \cdot \sin 56^\circ \approx 5300$  km
20.  $90 - 23 = 67$ ;  $\sin 67^\circ = \frac{r}{6400}$ ;  $r = 6400 \cdot \sin 67^\circ \approx 5900$  km

21. Statements

1. Draw  $\overline{OQ}$ .
2.  $\overline{OR} \cong \overline{OS}$ ;  $\overline{QR} \cong \overline{QS}$
3.  $\overline{OQ} \cong \overline{OQ}$
4.  $\triangle ORQ \cong \triangle OSSQ$
5.  $m\angle ROQ = m\angle SOQ = \frac{1}{2}m\angle ROS$ ;  
 $m\angle RQO = m\angle SQQ = \frac{1}{2}m\angle RQS$
6.  $m\widehat{RVS} = 60$ ;  $m\widehat{RUS} = 120$
7.  $m\angle ROS = 60$ ;  $m\angle RQS = 120$
8.  $m\angle ROQ = 30$ ;  $m\angle RQO = 60$
9.  $m\angle ORQ = 180 -$   
 $(m\angle ROQ + m\angle RQO) = 90$
10.  $\overline{OR} \perp \overline{RQ}$
11.  $\overline{OR}$  is tan. to  $\odot Q$ ;  
 $\overline{QR}$  is tan. to  $\odot O$ .

Reasons

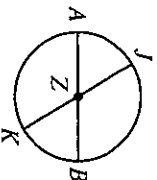
1. Through any 2 pts. there is exactly one line.
2. All radii of a  $\odot$  are  $\cong$ .
3. Refl. Prop.
4. SSS Post.
5. Corr. parts of  $\cong \triangle$  are  $\cong$ ,  $\angle$  Bis. Thm.
6. Given
7. Def. of meas. of an arc
8. Substitution Prop.
9. The sum of the meas. of the  $\sphericalangle$  of a  $\triangle$  is 180.
10. Def. of  $\perp$  lines
11. If a line in the plane of a  $\odot$  is  $\perp$  to a radius at its outer endpt., then the line is tan. to the  $\odot$ .

22. Either  $\overline{JK}$  is a diam. of  $\odot Z$  or  $\overline{JK} \parallel \overline{AB}$ .

Case I:  $\widehat{AJ}$  and  $\widehat{BK}$  lie on opp. sides of  $\overline{AB}$ .

Given:  $\overline{AB}$  is a diam. of  $\odot Z$ ;  $m\widehat{AJ} = m\widehat{BK}$

Prove:  $\overline{JK}$  is a diam. of  $\odot Z$ .



Statements

1. Draw  $\overline{JK}$ .
2.  $m\widehat{JK} = m\widehat{JB} + m\widehat{BK}$
3.  $m\widehat{AJ} = m\widehat{BK}$
4.  $m\widehat{JK} = m\widehat{JB} + m\widehat{AJ} = m\widehat{AB} = 180$
5.  $\widehat{JK}$  is a semicircle;  $\overline{JK}$  is a diam.

Reasons

1. Through any 2 pts. there is exactly one line.
2. Arc Add. Post.
3. Given
4. Substitution, Arc Add. Post.
5. Def. of semicircle

See next page for Case II.

