Chapter 4 Review
Honors Geometry

Name Key

Does the given information show that $\triangle XUY \cong \triangle ZUY$? If yes, state the theorem or postulate you used.

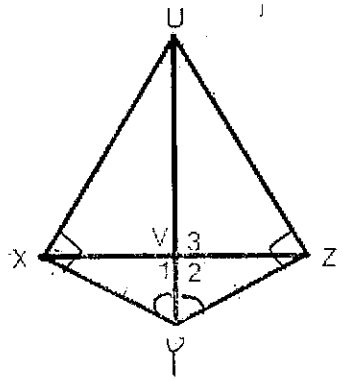
1. $\angle YXU \cong \angle YZU$; $\overline{XU} \cong \overline{ZU}$ No $\cong$

2. $\angle XUY \cong \angle ZUY$; $\overline{XU} \cong \overline{ZU}$ SAS

3. $\overline{XY} \cong \overline{ZY}$; $\angle 1 \cong \angle 2$; $\angle VXY \cong \angle VZY$ SAS

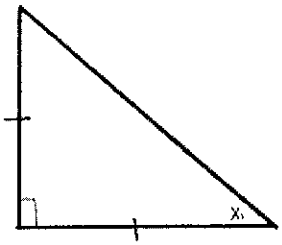
4. $\overline{XU} \cong \overline{UZ}$; $\overline{YX} \cong \overline{YZ}$ SSS

5. $\angle UXY$ & $\angle UZY$ are right angles; $\angle UYX \cong \angle UYZ$ AAS



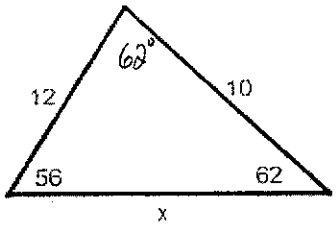
Find the value of x.

6.



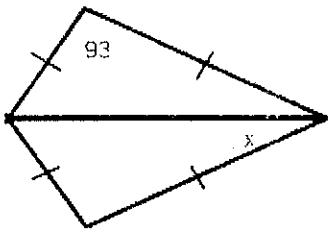
X= 45

7.



X= 12

8.



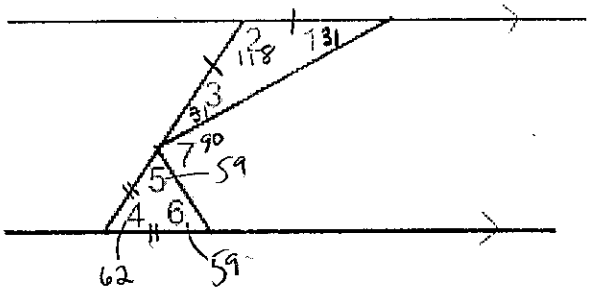
X= 43.5

9. Find the following angles if $m\angle 1 = 31$.

$m\angle 7 =$ 90

$m\angle 5 =$ 59

$m\angle 4 =$ 62



10. In equiangular $\triangle JFK$, JK = x + 10y; FK = 2x + 8y; JK = 24.

X = 4

Y = 2

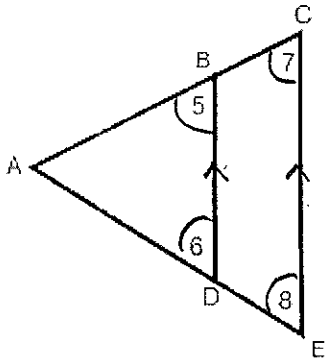
$2x + 8y = 24$
$x + 10y = 2x + 8y$
$2y = x$
$2(2) = x$
$4 = x$

$2(2y) + 8y = 24$
$12y = 24$
$y = 2$

Write a 2-column proof for each of the following.

11. Given: $\overline{BD} \parallel \overline{CE}$; $\angle 5 \cong \angle 6$

Prove: $\overline{AC} \cong \overline{AE}$

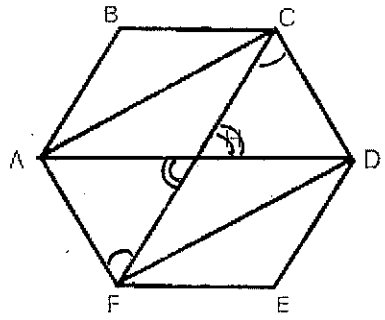


Statements	Reasons
1. $\overline{BD} \parallel \overline{CE}$; $\angle 5 \cong \angle 6$	1. Given
2. $\angle 5 \cong \angle 7$; $\angle 6 \cong \angle 8$	2. $\parallel$ lines $\rightarrow$ corr. $\angle$s $\cong$
3. $m\angle 5 = m\angle 6$; $m\angle 5 = m\angle 7$; $m\angle 6 = m\angle 8$	3. def. $\cong$
4. $m\angle 7 = m\angle 8$	4. substitution
5. $\overline{AC} \cong \overline{AE}$	5. 2 $\angle$s $\triangle \cong \rightarrow$ sides opp. $\cong$

12. Given: $\angle AFC \cong \angle DCF$

ABCDEF is a regular hexagon

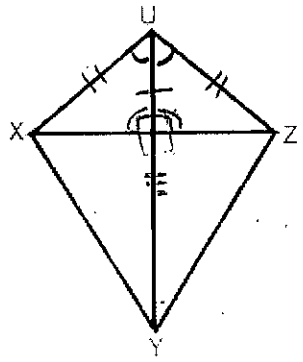
Prove: $\triangle AHF \cong \triangle DHC$



Statements	Reasons
1. $\angle AFC \cong \angle DCF$	1. Given
ABCDEF is reg. hex.	
2. $\angle AHF \cong \angle CHD$	2. Vert. $\angle$s $\cong$
3. $\overline{AF} \cong \overline{CD}$	3. def. reg. hex.
4. $\triangle AHF \cong \triangle DHC$	4. AAS

13. Given: $\overline{UY} \perp \overline{XZ}$; $\overline{UY}$ bisects $\angle XUZ$

Prove: $\overline{XY} \cong \overline{ZY}$



Statements	Reasons
1. $\overline{UY} \perp \overline{XZ}$	1. Given
2. $\angle UVX \cong \angle UVZ$	2. $\perp$ lines $\rightarrow \cong$ adj. $\angle$s
3. $\overline{UY}$ bisects $\angle XUZ$	3. Given
4. $\angle XUV \cong \angle ZUV$	4. def. $\angle$ bis.
5. $\overline{UV} \cong \overline{UV}$	5. Reflexive
6. $\Delta UXV \cong \Delta UZV$	6. ASA
7. $\overline{UX} \cong \overline{UZ}$	7. CPCTC
8. $\overline{UY} \cong \overline{UY}$	8. Reflexive
9. $\Delta UXY \cong \Delta UZY$	9. SAS
10. $\overline{XY} \cong \overline{ZY}$	10. CPCTC