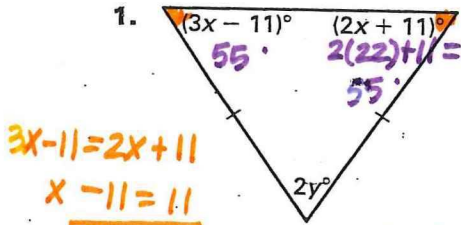
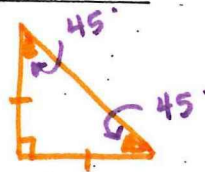


LESSON 4.7

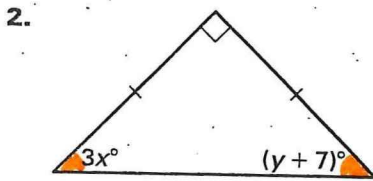
Practice

For use with pages 264-270

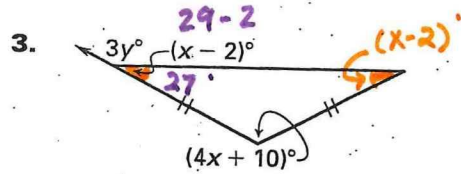
Find the values of x and y .



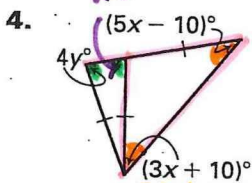
$3x-11=2x+11$
 $x-11=11$
 $x=22$ BA Thm.
 $2y+2(55)=180$
 $2y+110=180$
 $2y=70$
 $y=35$ Δ sum



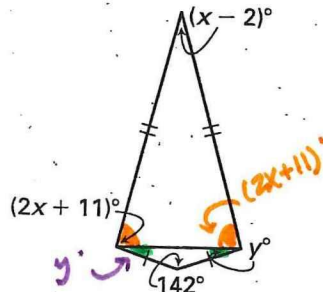
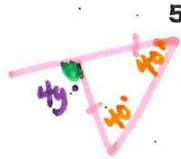
$3x=y+7$?
 $3x=45$ $y+7=45$
 $x=15$ $y=38$



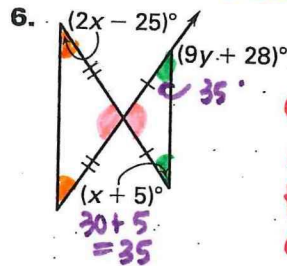
$4x+10+2(x-2)=180$
 $4x+10+2x-4=180$
 $6x+6=180$
 $6x=174$
 $x=29$ Δ sum
 $3y+27=180$
 $3y=153$
 $y=51$ LP



$5x-10=3x+10$
 $2x-10=10$
 $2x=20$
 $x=10$ BA Thm.
 $4y=40+40$
 $4y=80$
 $y=20$ Ext. \angle s Thm



$x-2+2(2x+11)=180$
 $x-2+4x+22=180$
 $5x+20=180$
 $5x=160$
 $x=32$ Δ sum
 $2y+142=180$
 $2y=38$
 $y=19$ Δ sum

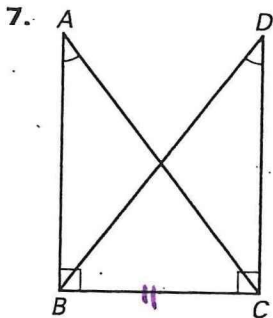


* If the vertex angles of isosceles Δ s are \cong , then their base angles are congruent.

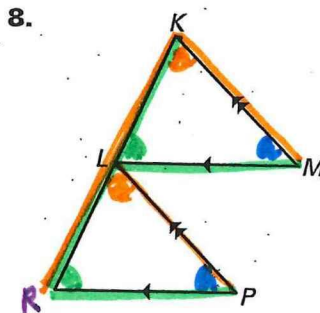
$2x-25=x+5$
 $x-25=5$
 $x=30$
 $35+9y+28=180$
 $9y+63=180$
 $9y=117$
 $y=13$ LP

* could also use Δ sum and then the LP to find y

Decide whether enough information is given to prove that the triangles are congruent. Explain your answer.



$\overline{BC} \cong \overline{BC}$ Reflexive
 $\Delta ABC \cong \Delta DCB$ AAS



$\angle KLM \cong \angle LRP$ CA
 $\angle LKM \cong \angle RLP$ CA
 $\angle M \cong \angle P$ 3rd \angle s Thm

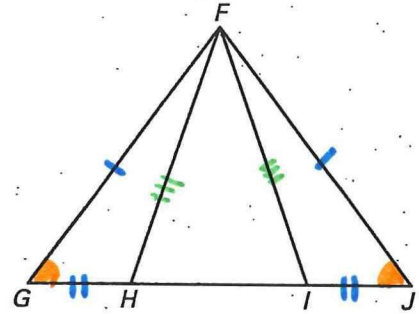
~~AAA~~
 NOT \cong

LESSON 4.7 Practice *continued*
For use with pages 264–270

In Exercises 9 and 10, complete the proof.

9. GIVEN: $\overline{FG} \cong \overline{FJ}$, $\overline{HG} \cong \overline{IJ}$

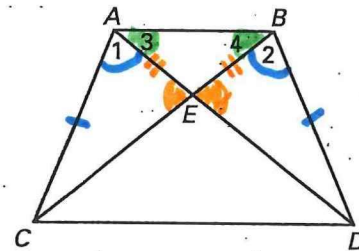
PROVE: $\overline{HF} \cong \overline{IF}$



Statements	Reasons
1. $\overline{FG} \cong \overline{FJ}$	1. ? Given
2. ? $\angle G \cong \angle J$	2. Base Angles Theorem
3. $\overline{HG} \cong \overline{IJ}$	3. ? Given
4. ? $\triangle FGH \cong \triangle FJI$	4. SAS Congruence Postulate
5. $\overline{HF} \cong \overline{IF}$	5. ? CPCTC

10. GIVEN: $\angle 1 \cong \angle 2$, $\overline{AC} \cong \overline{BD}$

PROVE: $\angle 3 \cong \angle 4$



Statements	Reasons
1. $\angle 1 \cong \angle 2$	1. ? Given
2. $\overline{AC} \cong \overline{BD}$	2. ? Given
3. $\angle AEC \cong \angle BED$	3. ? VA
4. ? $\triangle CAE \cong \triangle DBE$	4. AAS Congruence Theorem
5. $\overline{AE} \cong \overline{BE}$	5. ? CPCTC
6. $\angle 3 \cong \angle 4$	6. ? BA Thm.

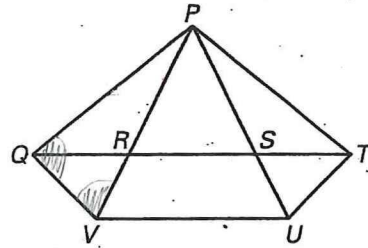
LESSON
4.7

Practice *continued*
For use with pages 264-270

IF $\triangle A$, then $\triangle B$. BA Thm.

IF $\triangle B$, then $\triangle A$. CBA Thm

In Exercises 11-16, use the diagram. Complete the statement. Tell what theorem you used.



11. If $\overline{PQ} \cong \overline{PT}$, then $\angle \underline{PQT} \cong \angle \underline{PTQ}$ BA Thm

12. If $\angle PQV \cong \angle PVQ$, then $\underline{QP} \cong \underline{VP}$ CBA Thm

13. If $\overline{RP} \cong \overline{SP}$, then $\angle \underline{PRS} \cong \angle \underline{PSR}$ BA Thm

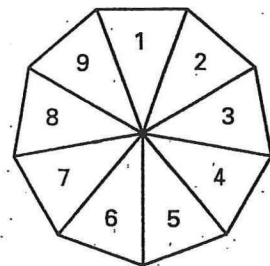
14. If $\overline{TP} \cong \overline{TR}$, then $\angle \underline{TPR} \cong \angle \underline{TRP}$ BA Thm

15. If $\angle PSQ \cong \angle SPQ$, then $\underline{QP} \cong \underline{QS}$ CBA Thm

16. If $\angle PUV \cong \angle PVU$, then $\underline{PU} \cong \underline{PV}$ CBA Thm

In Exercises 17-19, use the following information.

Prize Wheel A radio station sets up a prize wheel when they are out promoting their station. People spin the wheel and receive the prize that corresponds to the number the wheel stops on. The 9 triangles in the diagram are isosceles triangles with congruent vertex angles.



17. The measure of the vertex angle of triangle 1 is 40° . Find the measures of the base angles.

18. Explain how you know that triangle 1 is congruent to triangle 6.

19. Trace the prize wheel. Then form a triangle whose vertices are the midpoints of the bases of the triangles 1, 4, and 7. What type of triangle is this?