Name Key Date _____ Period _____

Chapter 4 Test Review

Fill in the blanks with the appropriate vocab terms:

1. A name given to matching angles of congruent triangles is CORRESPONDING ANGLES.

2. A side that is between two angles is called a(n) INCLUDED ~~ANGLE~~ SIDE.

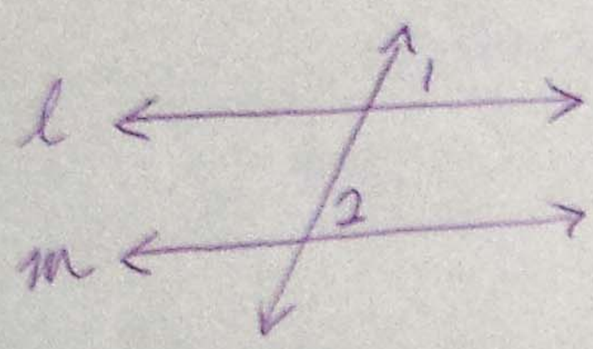
3. The two congruent angles in an isosceles triangle are called BASE ANGLES.

What can you conclude from the given statement? Provide a reason why. Draw a diagram for #6.

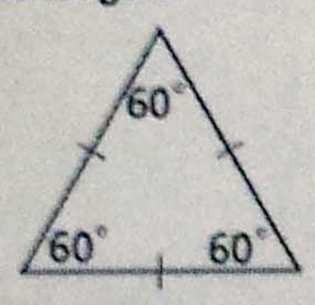
☆ 4. $\overrightarrow{AB}$ bisects $\angle$~~ACD~~ CAD, so $\angle CAB \cong \angle DAB$ because DEF. $\angle$ BISECTOR.

5. $\overline{XY}$ bisects $\overline{ZW}$ at point A, so $\overline{ZA} \cong \overline{AW}$ because DEF. SEG. BISECTOR.

☆ 6. $\angle 1 \cong \angle 2$ so $l \parallel m$ because CONV. CORR. $\angle$s POST.

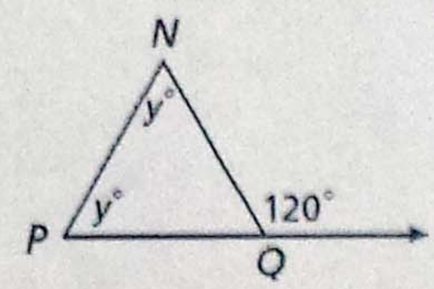


7. Classify the triangle by its angle measures and side lengths.



EQUILATERAL
EQUIANGULAR

8. Find $m\angle N$.



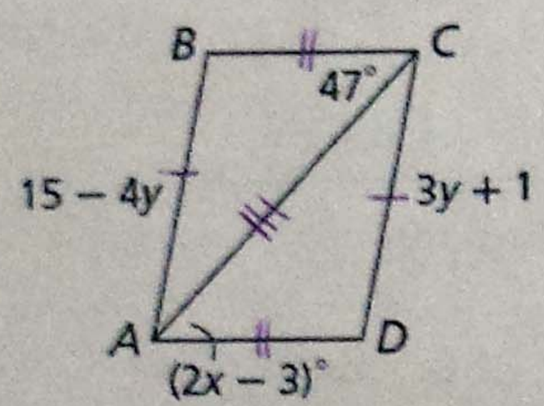
$2y = 120$
$y = 60°$
$m\angle N = 60°$

9. Given: $\Delta PQR \cong \Delta XYZ$. Identify the congruent corresponding parts.

a. $\overline{PR} \cong$ $\overline{XZ}$

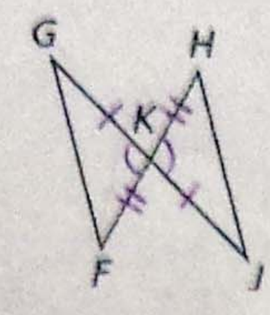
b. $\angle RPQ \cong \angle$ ZXY

10. Given: $\Delta ABC \cong \Delta CDA$. Find x.



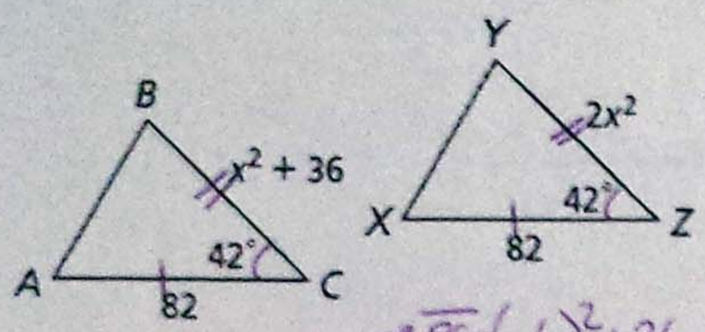
$2x - 3 = 47$
$2x = 50$
$x = 25$

11. Given: $\overline{GJ}$ bisects $\overline{FH}$, and $\overline{FH}$ bisects $\overline{GJ}$.
Prove: $\Delta FGK \cong \Delta HJK$



Statements	Reasons
① $\overline{GJ}$ bisects $\overline{FH}$, $\overline{FH}$ bisects $\overline{GJ}$	① GIVEN
② $\overline{GK} \cong \overline{JK}$, $\overline{HK} \cong \overline{FK}$	② DEF SEG. BISECTOR
③ $\angle FKG \cong \angle HKJ$	③ VERT. $\angle$s THM
④ $\Delta FGK \cong \Delta HJK$	④ SAS

12. Show that $\triangle ABC \cong \triangle XYZ$ when $x = -6$.

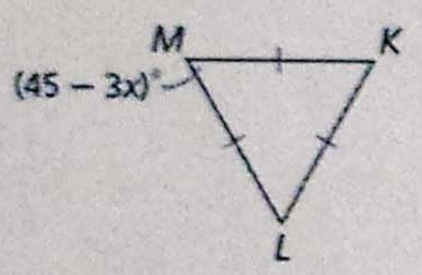


$\overline{BC} = (-6)^2 + 36$
$= 36 + 36$
$= 72$

$\overline{YZ} = 2(-6)^2$
$= 2(36)$
$= 72$

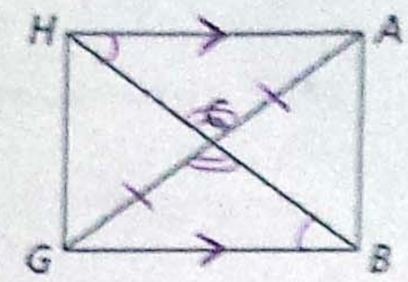
$\triangle ABC \cong \triangle XYZ$ by SAS

14. Find the value of x.



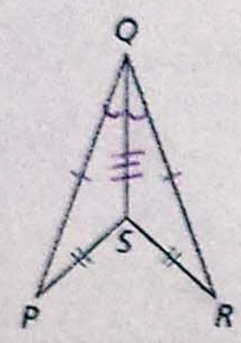
EQUILATERAL ↔ EQUIANGULAR
$\therefore m\angle = 60°$
$45 - 3x = 60$
$-3x = 15$
$\boxed{x = -5}$

13. Given: C is the midpoint of $\overline{AG}$.
$\overline{HA} \parallel \overline{GB}$
Prove: $\triangle HAC \cong \triangle BGC$



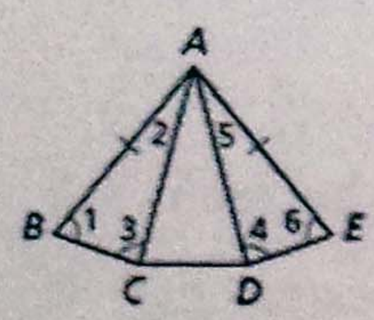
Statements	Reasons
① C mdpt of $\overline{AG}$, $\overline{HA} \parallel \overline{GB}$	① GIVEN
② $\overline{AC} \cong \overline{CG}$	② DEF mdpt.
③ $\angle CHA \cong \angle CBG$	③ ALT. INT. ∠s THM.
④ $\angle ACH \cong \angle GCB$	④ VERT. ∠s THM.
⑤ $\triangle HAC \cong \triangle BGC$	⑤ AAS

15. Given: $\overline{PQ} \cong \overline{RQ}$,
$\overline{PS} \cong \overline{RS}$
Prove: $\overline{QS}$ bisects $\angle PQR$.



Statements	Reasons
① $\overline{PQ} \cong \overline{RQ}$, $\overline{PS} \cong \overline{RS}$	① GIVEN
② $\overline{QS} \cong \overline{QS}$	② REFL. PC
③ $\triangle PQS \cong \triangle RQS$	③ SSS
④ $\angle PQS \cong \angle RQS$	④ CPCTC
⑤ $\overline{QS}$ bisects $\angle PQR$	⑤ DEF. ∠ BISECTOR

16. Given: $\angle 1 \cong \angle 6$, $\angle 4 \cong \angle 6$
$\angle 1 \cong \angle 3$, $\overline{AB} \cong \overline{AE}$
Prove: $\triangle ACD$ is isosceles.



Statements	Reasons
① $\angle 1 \cong \angle 6$, $\angle 4 \cong \angle 6$, $\angle 1 \cong \angle 3$, $\overline{AB} \cong \overline{AE}$	① GIVEN
~~② $\angle ABC \cong \angle AED$, ABC is isosc. BS~~	~~② DEF isosc. ∠s~~
~~③ $\overline{AB} \cong \overline{AC}$, $\overline{AD} \cong \overline{AE}$~~	~~③ CPCTC, isosc. △s THM~~
② $\triangle ABC \cong \triangle AED$	② AAS
③ $\overline{AC} \cong \overline{AD}$	③ CPCTC
④ $\triangle ACD$ is isosc. △	④ DEF. isosc. △