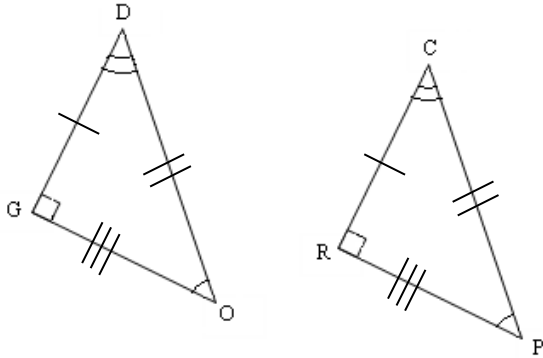


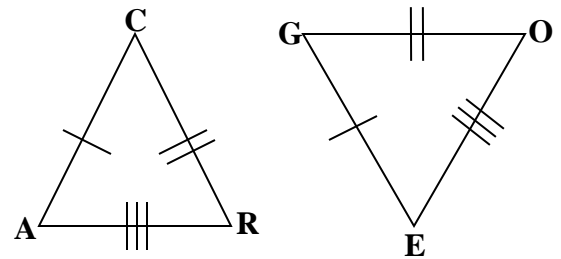
Triangle Congruence

I. Name the congruent triangles.

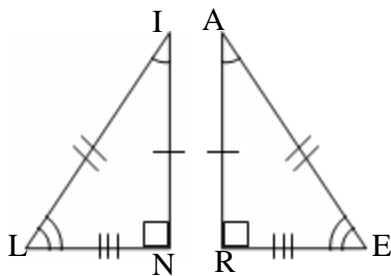
1. $\triangle OGD \cong \triangle$ _____



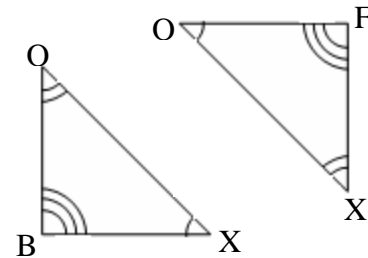
2. $\triangle RAC \cong \triangle$ _____



3. $\triangle LIN \cong \triangle$ _____

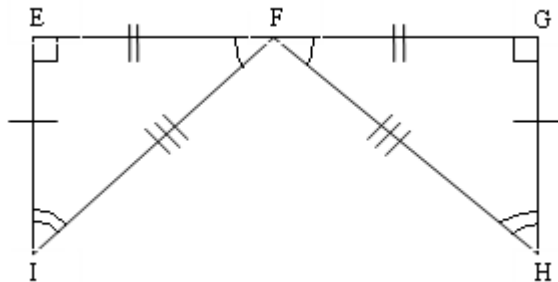


4. $\triangle FOX \cong \triangle$ _____



II. Name the congruent triangle and the congruent parts..

7.



$\triangle FGH \cong \triangle$ _____

$\angle EFG \cong \angle$ _____

$\overline{FG} \cong$ _____

$\angle G \cong \angle$ _____

$\overline{GH} \cong$ _____

$\angle H \cong \angle$ _____

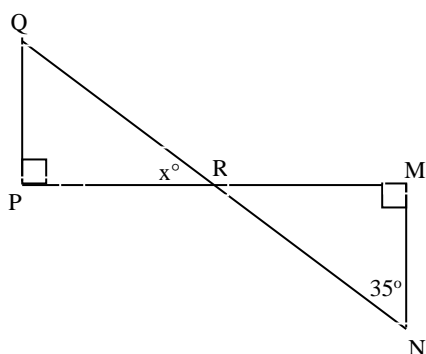
$\overline{FH} \cong$ _____

Use the congruency statement to fill in the corresponding congruent parts.

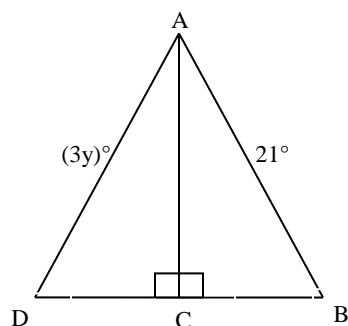
8. $\triangle EFG \cong \triangle HGI$ $\angle E \cong \angle$ _____ $\overline{FE} \cong$ _____ $\angle EFG \cong \angle$ _____

$\overline{FI} \cong$ _____ $\angle FIE \cong \angle$ _____ $\overline{IE} \cong$ _____

9. $\triangle PQR \cong \triangle MNR$. Find x .



10. $\triangle ABC \cong \triangle ADC$. Find y .



Third Angles Theorem (add to Theorems, Postulates and Definitions Card) –

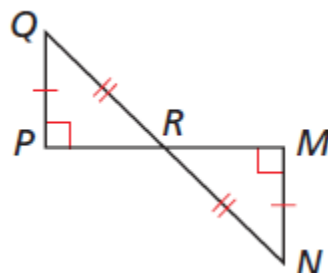
Proving Triangles Congruent

Given: $\angle P$ and $\angle M$ are right angles.

R is the midpoint of \overline{PM} .

$\overline{PQ} \cong \overline{MN}$, $\overline{QR} \cong \overline{NR}$

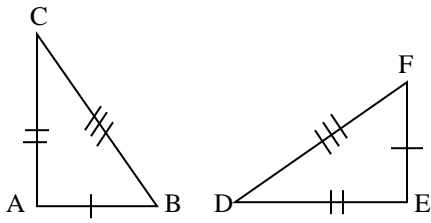
Prove: $\triangle PQR \cong \triangle MNR$



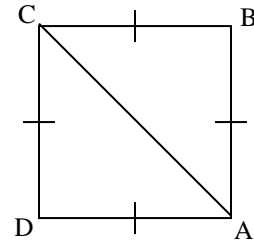
Triangle Congruence Worksheet #1

For each pair of triangles, tell which postulates, **if any**, make the triangles congruent.

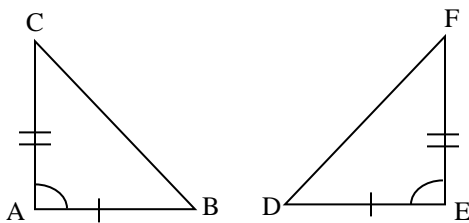
12. $\triangle ABC \cong \triangle EFD$ _____



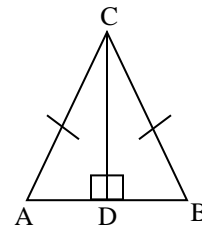
13. $\triangle ABC \cong \triangle CDA$ _____



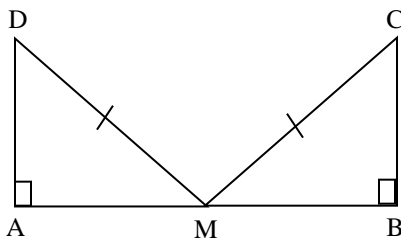
14. $\triangle ABC \cong \triangle EFD$ _____



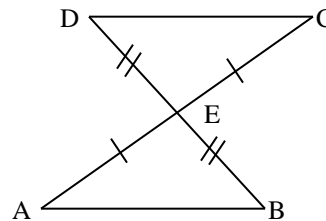
15. $\triangle ADC \cong \triangle BDC$ _____



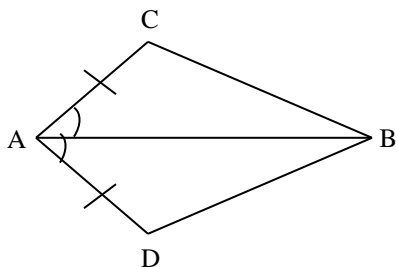
21. $\triangle MAD \cong \triangle MBC$ _____



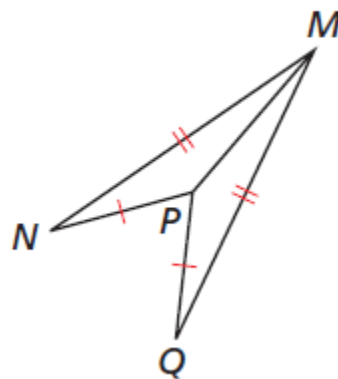
$\triangle ABE \cong \triangle CDE$ _____



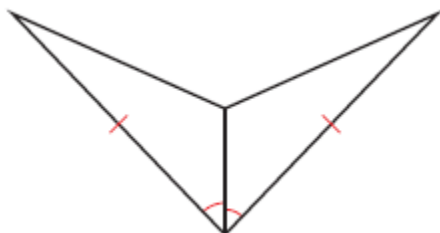
23. $\triangle ACB \cong \triangle ADB$ _____



23. $\triangle MNP \cong \triangle MQP$ _____



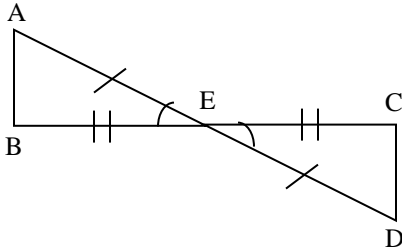
23. _____



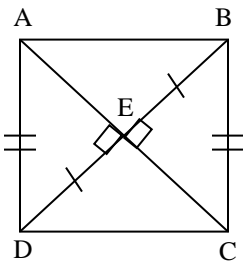
Triangle Congruence Worksheet #2

I. For each pair of triangles, tell which postulate, if any, can be used to prove the triangles congruent.

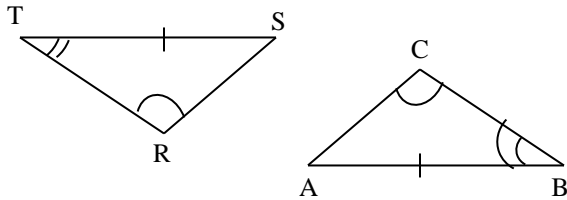
1. $\triangle AEB \cong \triangle DEC$ _____



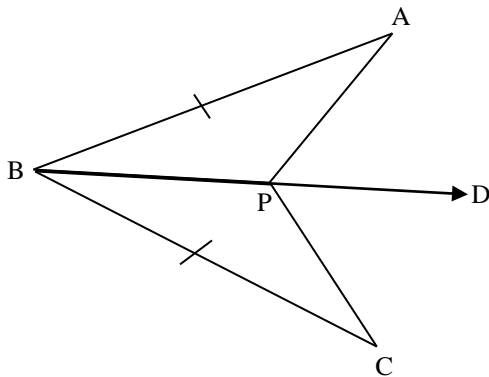
3. $\triangle DEA \cong \triangle BEC$ _____



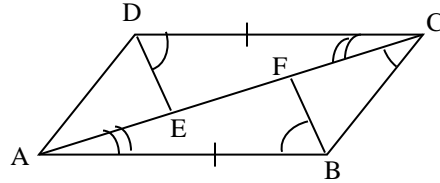
5. $\triangle RTS \cong \triangle CBA$ _____



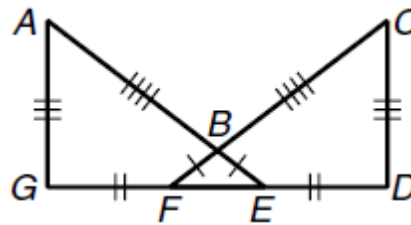
7. $\triangle BAP \cong \triangle BCP$ _____
Given: \overrightarrow{BD} bisects $\angle ABC$



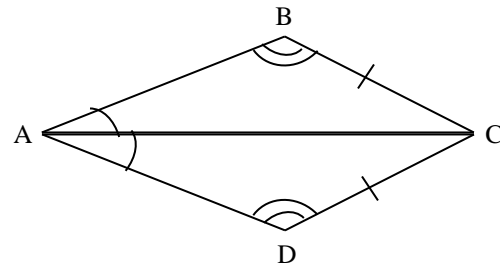
2. $\triangle CDE \cong \triangle ABF$ _____



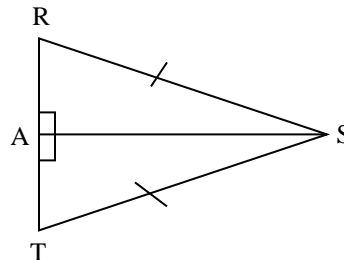
4. $\triangle AGE \cong \triangle CDF$ _____



6. $\triangle ABC \cong \triangle ADC$ _____

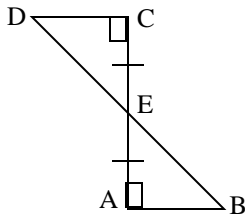


8. $\triangle SAT \cong \triangle SAR$ _____



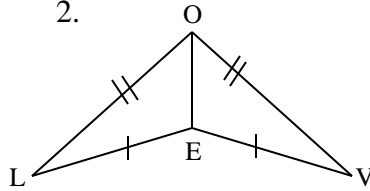
II. For each pair of triangles, tell: (a) Are they congruent (b) Write the triangle congruency statement. (c) Give the postulate that makes them congruent.

1.



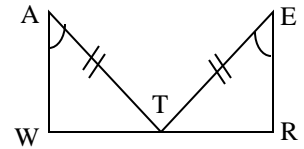
- a. _____
b. Δ _____ \cong Δ _____
c. _____

2.



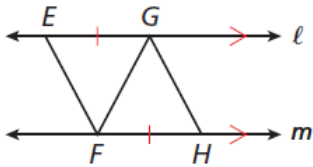
- a. _____
b. Δ _____ \cong Δ _____
c. _____

3. Given: T is the midpoint of \overline{WR}



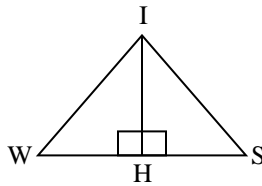
- a. _____
b. Δ _____ \cong Δ _____
c. _____

4.



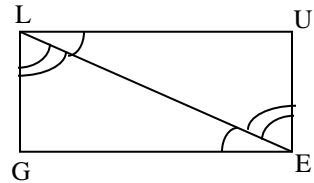
- a. _____
b. Δ _____ \cong Δ _____
c. _____

5. Given: \overrightarrow{IH} Bisects $\angle WIS$



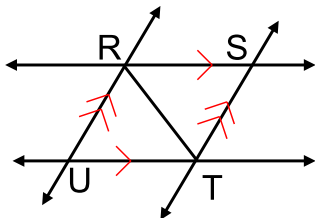
- a. _____
b. Δ _____ \cong Δ _____
c. _____

6.



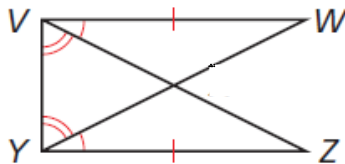
- a. _____
b. Δ _____ \cong Δ _____
c. _____

7.



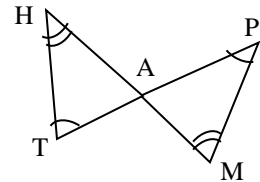
- a. _____
b. Δ _____ \cong Δ _____
c. _____

8.



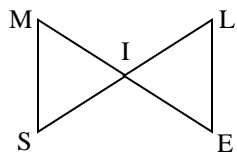
- a. _____
b. Δ _____ \cong Δ _____
c. _____

9.



- a. _____
b. Δ _____ \cong Δ _____
c. _____

10. Given: I is the midpoint
of \overline{ME} and \overline{SL}

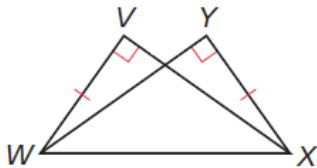


a. _____

b. Δ _____ \cong Δ _____

c. _____

11.

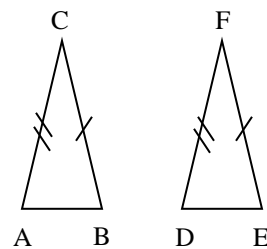


a. _____

b. Δ _____ \cong Δ _____

c. _____

12.



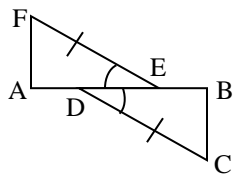
a. _____

b. Δ _____ \cong Δ _____

c. _____

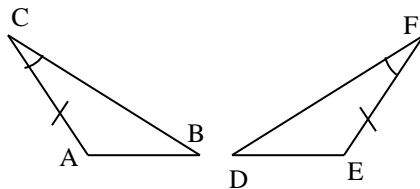
III. Using the given postulate, tell which parts of the pair of triangles should be shown congruent.

1. SAS



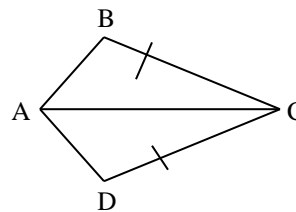
_____ \cong _____

2. ASA



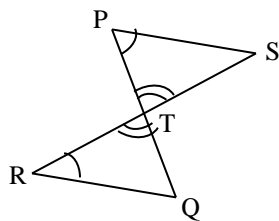
_____ \cong _____

3. SSS



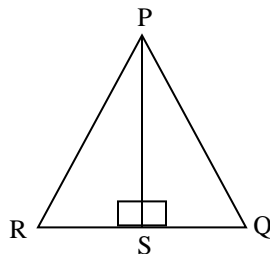
_____ \cong _____

4. AAS



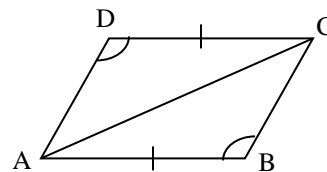
_____ \cong _____

5. HL



_____ \cong _____

6. ASA



_____ \cong _____

Triangle Proofs Worksheet

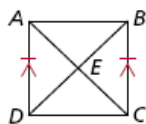
For each problem below, write a two-column proof on a separate piece of paper.

I. Proving Triangles Congruent:

1. Use AAS to prove the triangles congruent.

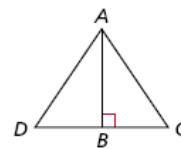
Given: $\overline{AD} \parallel \overline{BC}$, $\overline{AD} \cong \overline{CB}$

Prove: $\triangle AED \cong \triangle CEB$



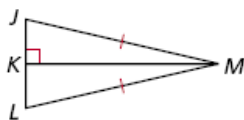
5. Given: B is the midpoint of \overline{DC} . $\overline{AB} \perp \overline{DC}$

Prove: $\triangle ABD \cong \triangle ABC$



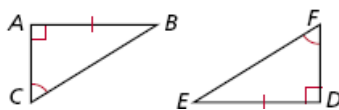
2. Given: $\overline{KM} \perp \overline{JL}$, $\overline{JM} \cong \overline{LM}$, $\angle JMK \cong \angle LMK$

Prove: $\triangle JKM \cong \triangle LKM$



3. Given: $\overline{AB} \cong \overline{DE}$, $\angle C \cong \angle F$

Prove: $\triangle ABC \cong \triangle DEF$

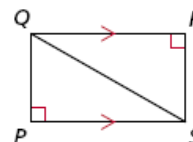


6. Use AAS to prove the triangles congruent.

Given: $\angle R$ and $\angle P$ are right angles.

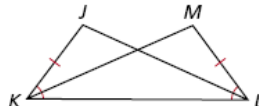
$\overline{QR} \parallel \overline{SP}$

Prove: $\triangle QPS \cong \triangle SRQ$



4. Given: $\overline{JK} \cong \overline{ML}$, $\angle JKL \cong \angle MLK$

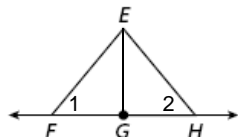
Prove: $\triangle JKL \cong \triangle MLK$

**II. Using CPCTC**

7. Given: G is the midpoint of \overline{FH} .

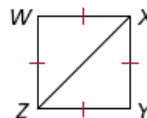
$\overline{EG} \cong \overline{EH}$

Prove: $\angle 1 \cong \angle 2$



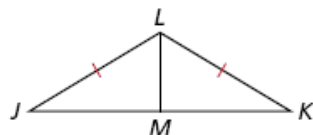
10. Given: $\overline{WX} \cong \overline{XY} \cong \overline{YZ} \cong \overline{ZW}$

Prove: $\angle W \cong \angle Y$



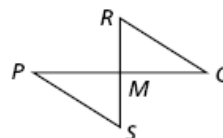
8. Given: \overline{LM} bisects $\angle JLK$. $\overline{JL} \cong \overline{KL}$

Prove: M is the midpoint of \overline{JK} .



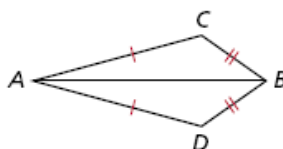
11. Given: M is the midpoint of \overline{PQ} and \overline{RS} .

Prove: $\overline{QR} \cong \overline{PS}$



9. Given: $\overline{AC} \cong \overline{AD}$, $\overline{CB} \cong \overline{DB}$

Prove: \overline{AB} bisects $\angle CAD$.

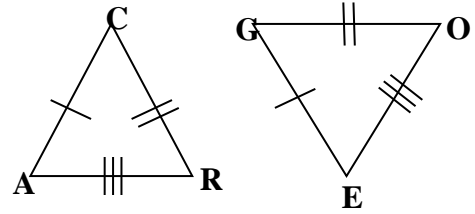


Review: Triangles and Triangle Congruence

You will need a separate piece of paper to show all your work. This review is **not** comprehensive; always be sure to go back through your old homework and quizzes.

☉ I can write a congruency statement representing two congruent polygons

1. Write a congruency statement for the two triangles at right.

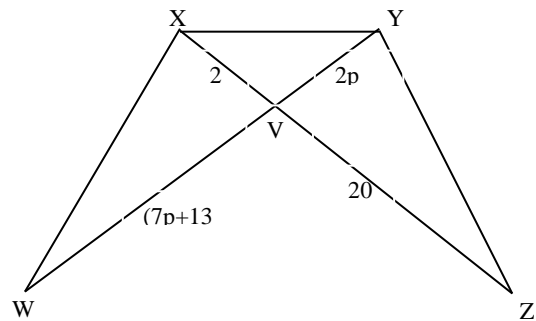


☉ I can identify congruent parts of a polygon, given a congruency statement

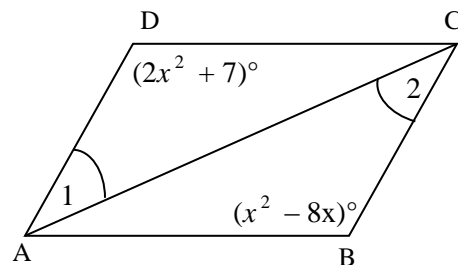
2. List ALL of the congruent parts if $\triangle EFG \cong \triangle HGF$

☉ I can use algebra to find the side lengths and angle measures of congruent polygons

3. $\triangle WXY \cong \triangle ZYX$. Find p.



4. $\triangle ADC \cong \triangle CBA$. Find x.



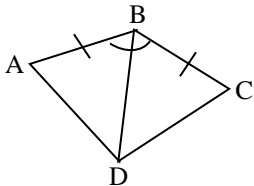
☉ I can name the five ways to prove triangles are congruent

5. Name the 5 ways to prove triangles congruent.

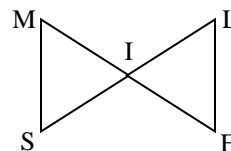
☉ I can prove triangles are congruent

For each pair of triangles, tell: (a) Are they congruent (b) Write the triangle congruency statement. (c) Give the postulate that makes them congruent.

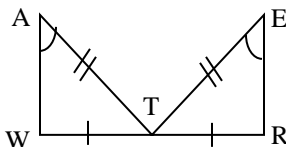
6.



8. Given: I is the midpoint of ME and SL

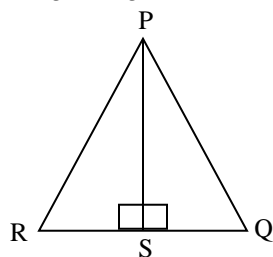


7.

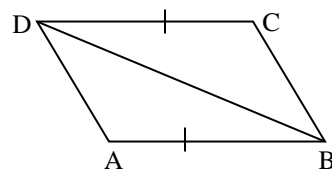


© I can mark pieces of a triangle congruent given how they are to be proved congruent

9. What information is missing to use HL?

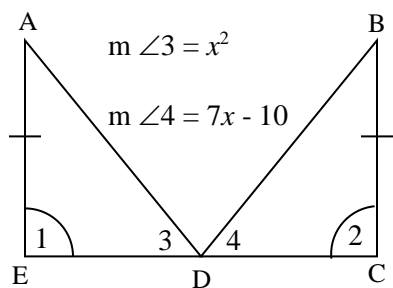


10. What information is missing to use SAS?

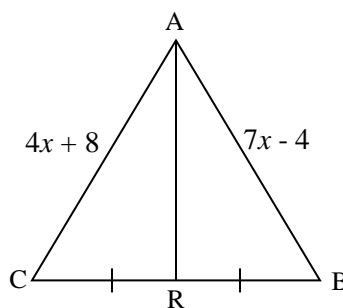


IV. For which value(s) of x are the triangles congruent?

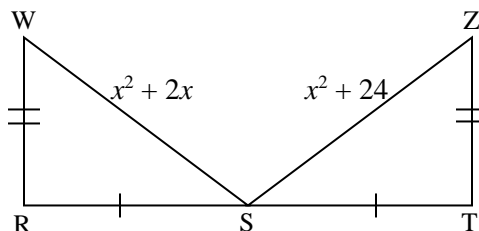
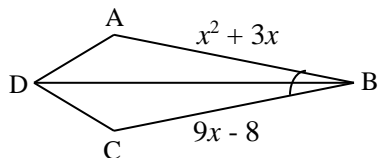
3. $x =$ _____



4. $x =$ _____



5. $x =$ _____

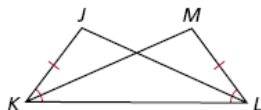


© I can write a two-column proof over congruent triangles

11.

Given: $\overline{JK} \cong \overline{ML}$, $\angle JKL \cong \angle MLK$

Prove: $\triangle JKL \cong \triangle MLK$



12. Complete and review ALL proofs on the proofs worksheet.