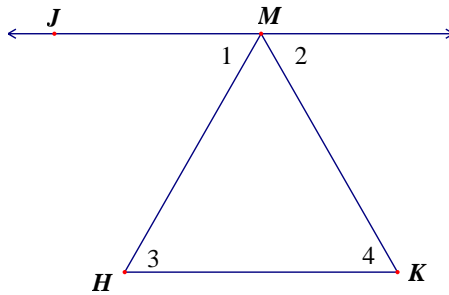


1. Given: $\angle 1 \cong \angle 2$
 $\overline{JM} \parallel \overline{HK}$

Prove: $\triangle HMK$ is isosceles



Statement	Reason

2. Solve each equation and state the property of equality or arithmetic as a reason to solve the equation.

a. $3(x-11) = 15$ _____
 $3x - 33 = 15$ _____
 _____ Addition Property
 $x = 16$ _____

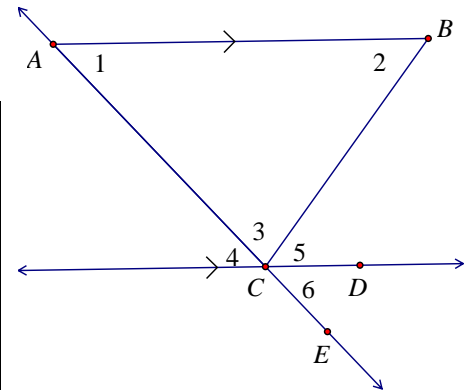
b. $\frac{1}{3}(2x-1) = 9$ _____

3. Complete the proof below.

Given: $\triangle ABC$ with exterior angle $\angle BCE$ and $\overline{CD} \parallel \overline{AB}$.

Prove: $m\angle 1 + m\angle 2 = \angle BCE$

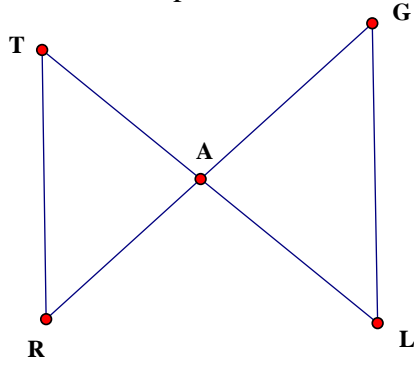
Statement	Reason
1. $\overline{CD} \parallel \overline{AB}$	1. Given
2. $\angle 2$ and $\angle 5$ are alternate interior angles. $\angle 1$ and $\angle 4$ are alternate interior angles.	2.
3. $\angle 2 \cong \angle 5$, $\angle 1 \cong \angle 4$	3.
4.	4. Definition of Vertical Angles
5. $\angle 4 \cong \angle 6$	5.
5. $\angle 1 \cong \angle 6$	5. Transitive property
6. $m\angle 5 + m\angle 6 = \angle BCE$	6.
7. $m\angle 1 + m\angle 2 = \angle BCE$	7.



#4-6. Write a two-column proof for the statements below.

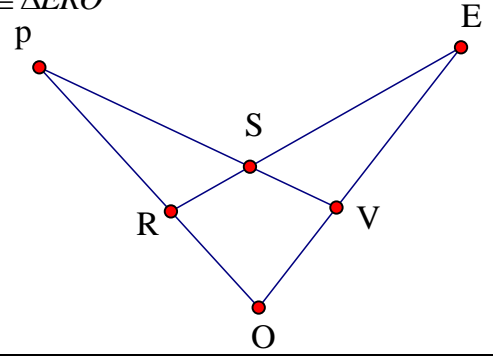
4. Given: $\angle T \cong \angle L$ and A is a midpoint of \overline{RG}

Prove: $\overline{TR} \cong \overline{GL}$



5. Given: $\overline{PO} \cong \overline{EO}$ and $\angle P \cong \angle E$

Prove: $\Delta PVO \cong \Delta ERO$

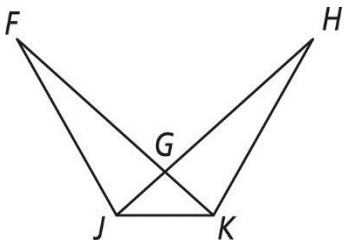


Statement	Reason

Statement	Reason

6. Given: $\angle FJK \cong \angle HKJ, \overline{FJ} \cong \overline{HK}$

Prove: $\angle F \cong \angle H$



Statement	Reason

7. Define the following terms:

postulate _____

definition _____

theorem _____

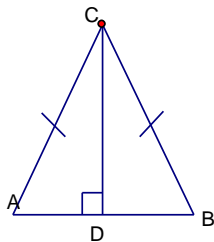
Geometry Chapter 4 Topics List

1. Triangle Interior Angle Sum Conjecture
2. Properties of Isosceles Triangles
 - a. Base Angle Congruence
3. Properties of Equilateral Triangles
4. Triangle Exterior Angle Conjecture
5. Proofs

6. Triangle Congruency Conjectures
 - a. SSS (Side-Side-Side)
 - b. SAS (Side-Angle-Side)
 - c. ASA (Angle-Side-Angle)
 - d. SAA (Side-Angle-Angle)
 - e. Non-congruencies
 - i. SSA (Side-Side-Angle)
 - ii. AAA (Angle-Angle-Angle)

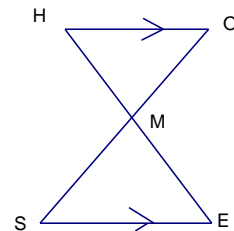
1. If the pair of triangles are congruent, write the congruent statement and the congruence property. If the pair of triangles are not congruent, state "cannot be determined"

a.



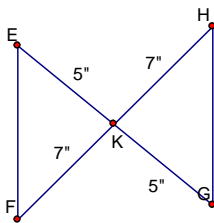
$\triangle ACD \cong \triangle$ _____
Conjecture: _____

b.



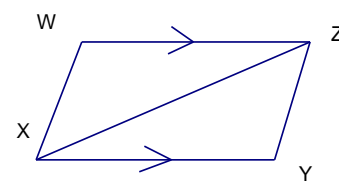
$\triangle HMO \cong \triangle$ _____
Conjecture: _____

c.



$\triangle EKF \cong \triangle$ _____
Conjecture: _____

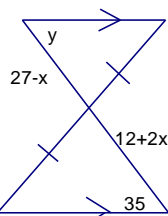
d.



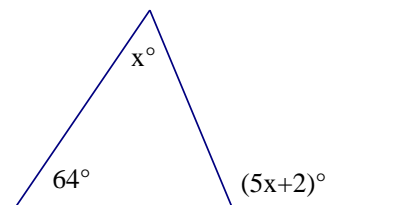
$\triangle WZX \cong \triangle$ _____
Conjecture: _____

2. Solve for x and/or y. **Show all work.**

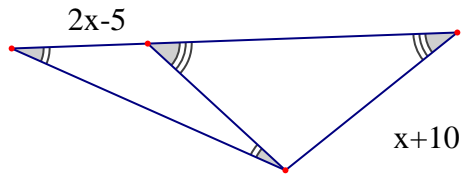
a.



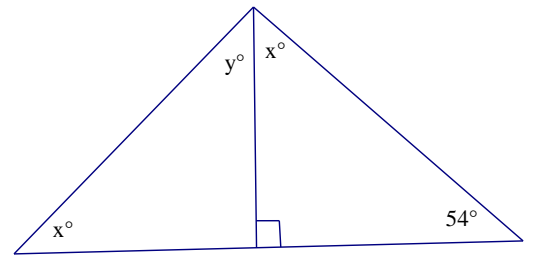
b.



c.

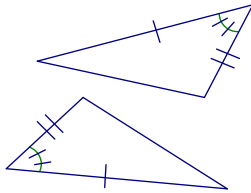


d.

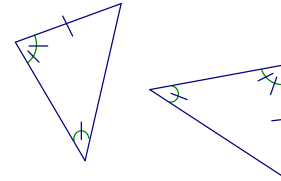


3. If the pair of triangles are congruent, write the congruence property. If the pair of triangles are not congruent, state "cannot be determined".

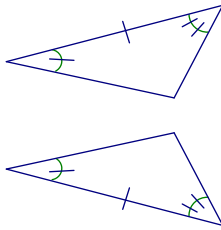
a.



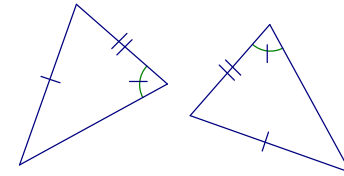
b.



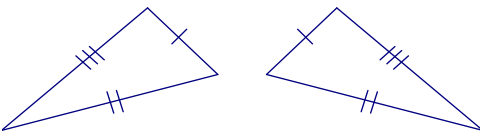
c.



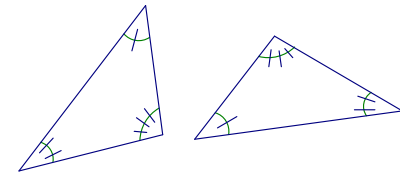
d.



e.



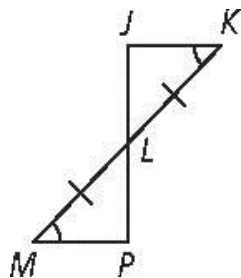
f.



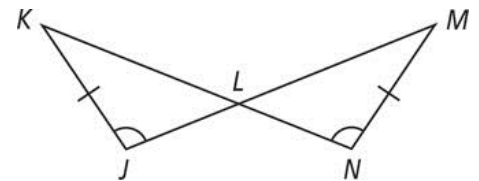
4.

Write a congruence statement for the triangles if they are congruent and state the congruence property. If the triangles are not congruent write "cannot be determined".

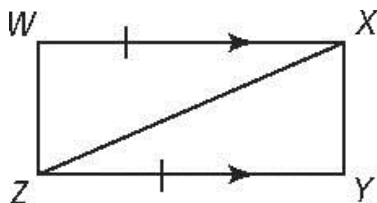
a.



b.



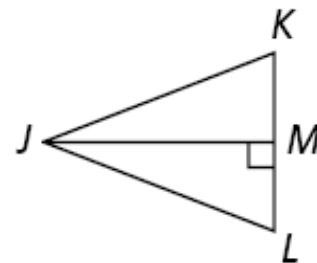
c.



d.

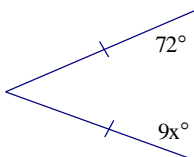


\overline{JM} bisects $\angle J$



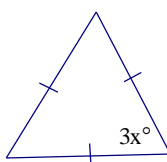
5. Solve for x and/or y . Show your work using equations.

a.



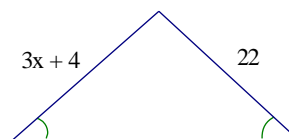
$x = \underline{\hspace{2cm}}$

b.



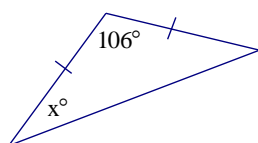
$x = \underline{\hspace{2cm}}$

c.



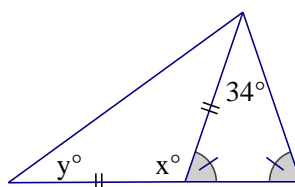
$x = \underline{\hspace{2cm}}$

d.



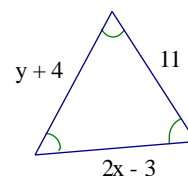
$x = \underline{\hspace{2cm}}$

e.



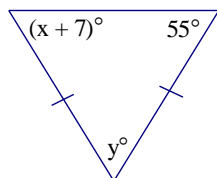
$x = \underline{\hspace{2cm}}$ $y = \underline{\hspace{2cm}}$

f.



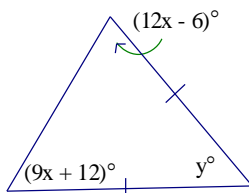
$x = \underline{\hspace{2cm}}$ $y = \underline{\hspace{2cm}}$

g.



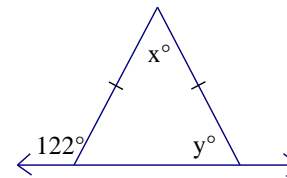
$x = \underline{\hspace{2cm}}$ $y = \underline{\hspace{2cm}}$

h.



$x = \underline{\hspace{2cm}}$ $y = \underline{\hspace{2cm}}$

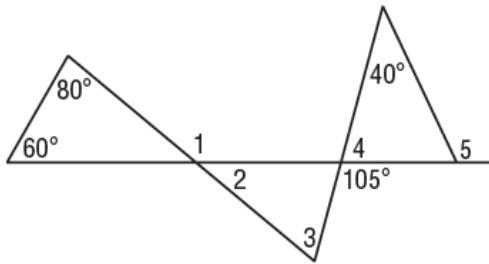
i.



$x = \underline{\hspace{2cm}}$ $y = \underline{\hspace{2cm}}$

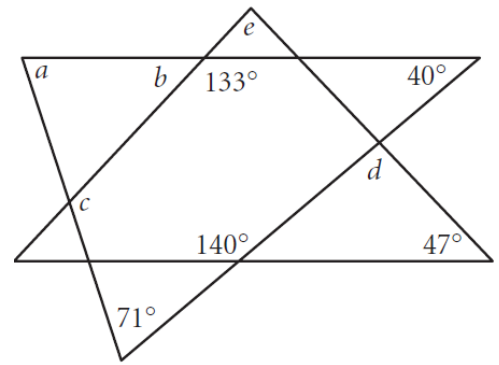
6. Solve for the missing parts.

a.



$m\angle 1 = \underline{\hspace{2cm}}$ $m\angle 2 = \underline{\hspace{2cm}}$ $m\angle 3 = \underline{\hspace{2cm}}$ $m\angle 4 = \underline{\hspace{2cm}}$

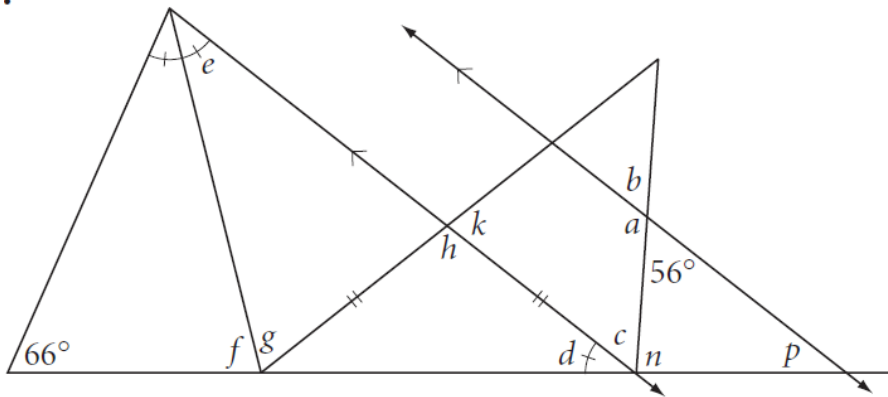
b.



$a = \underline{\hspace{2cm}}$ $b = \underline{\hspace{2cm}}$

$c = \underline{\hspace{2cm}}$ $d = \underline{\hspace{2cm}}$

c.



$a = \underline{\hspace{2cm}}$ $b = \underline{\hspace{2cm}}$

$c = \underline{\hspace{2cm}}$ $d = \underline{\hspace{2cm}}$

$e = \underline{\hspace{2cm}}$ $f = \underline{\hspace{2cm}}$

$g = \underline{\hspace{2cm}}$ $h = \underline{\hspace{2cm}}$

$k = \underline{\hspace{2cm}}$ $n = \underline{\hspace{2cm}}$

$p = \underline{\hspace{2cm}}$