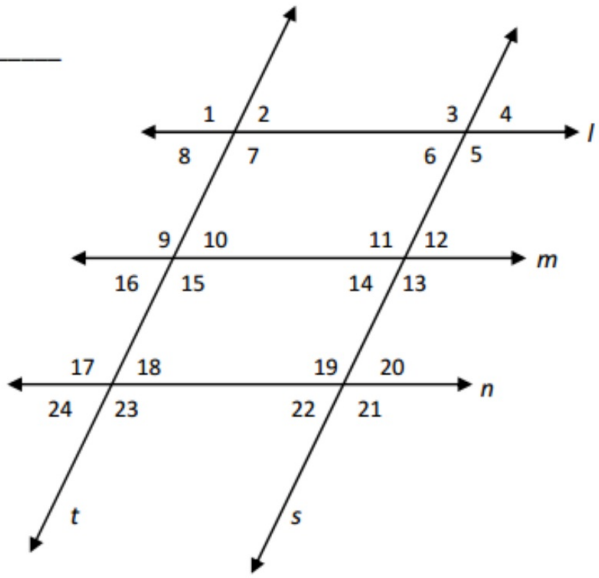
Day 54 Bellwork: Have your homework out and then complete the following

1. Given $l \parallel m \parallel n$ and $s \parallel t$, and $m\angle 1 = 143°$, find

$m\angle 2 =$_____ $m\angle 11 =$_____ $m\angle 20 =$_____

$m\angle 3 =$_____ $m\angle 12 =$_____ $m\angle 21 =$_____



2. **Is $x - 5$ a factor of the function $f(x) = x^3 + x^2 - 27x - 15$?**
Show work supporting your answer.

Before we dive in, here are two important properties:

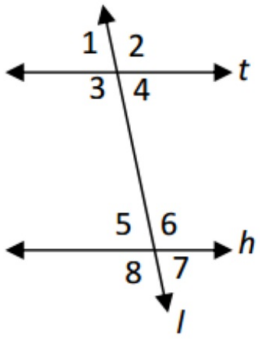
Substitution: a + b = blah c + d = blah

a + b = c + d

Transative: a = b and b = c then a = c

1. Given: $t \parallel h$

Prove: $\measuredangle 3 \cong \measuredangle 6$



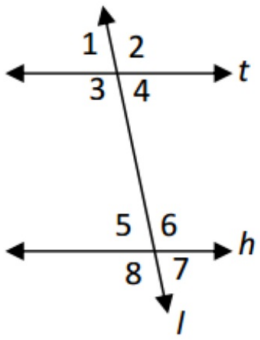
Statement	Reason
1. $t \parallel h$	Given
2. $\measuredangle 3 \cong \measuredangle 8$	Corresponding $\measuredangle s$ post.
3. $\measuredangle 8 \cong \measuredangle 6$	
4. $\measuredangle 3 \cong \measuredangle 6$	

2. Given: $t \parallel h$

Prove: $\measuredangle 2 \cong \measuredangle 8$

3. Given: $t \parallel h$

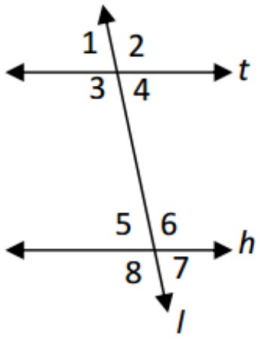
Prove: $\measuredangle 3$ and $\measuredangle 5$ are supplementary



Statement	Reason
1. $t \parallel h$	
2. $\measuredangle 3 \cong \measuredangle 8$	
3. $m\measuredangle 3 = m\measuredangle 8$	
4. $\measuredangle 8$ and $\measuredangle 5$ are supp.	
5. $m\measuredangle 8 + m\measuredangle 5 = 180°$	
6. $m\measuredangle 3 + m\measuredangle 5 = 180°$	
7. $\measuredangle 3$ and $\measuredangle 5$ are supp.	

4. Given: $t \parallel h$

Prove: $\measuredangle 2$ and $\measuredangle 7$ are supplementary



We have 5 theorems to prove △'s

4 of them are...

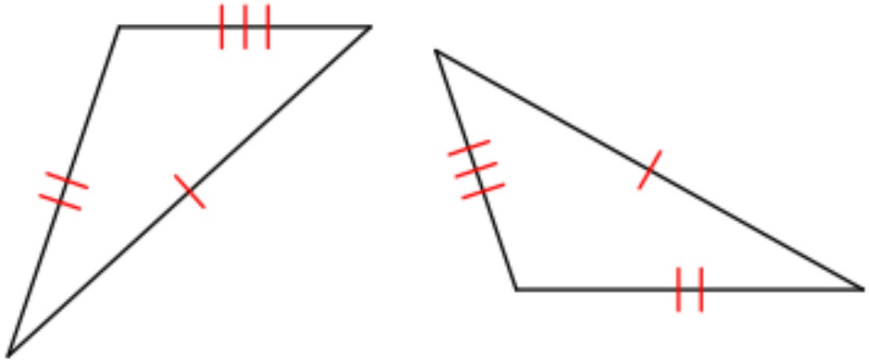
SSS

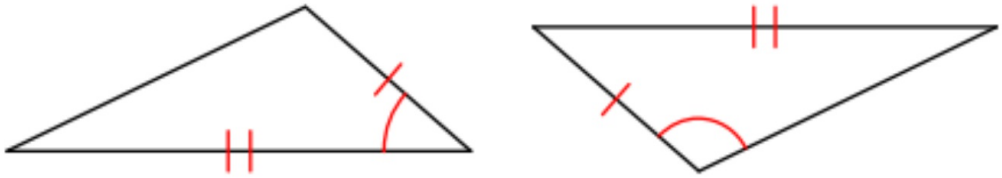
ASA

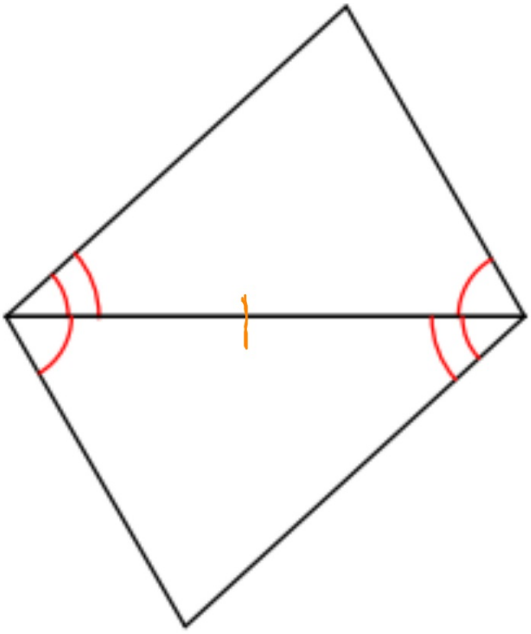
SAS

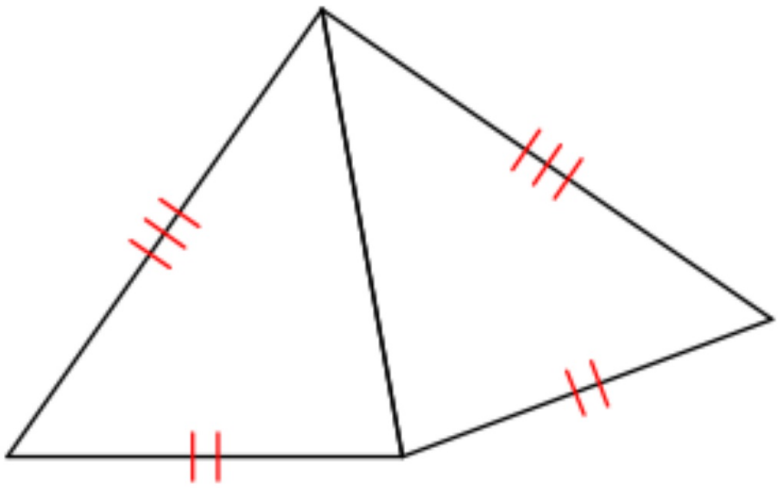
AAS

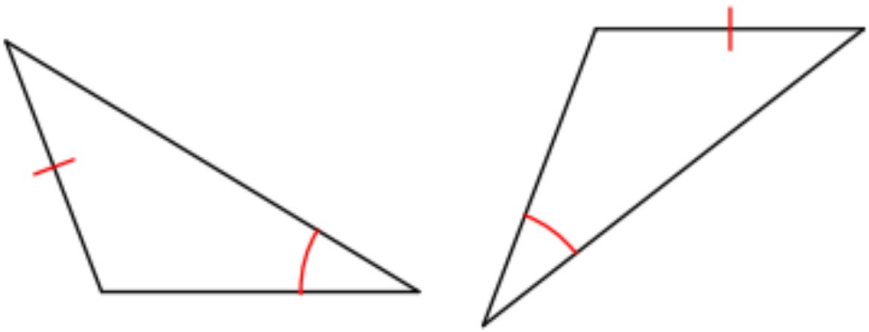
Guess how the triangles are congruent...

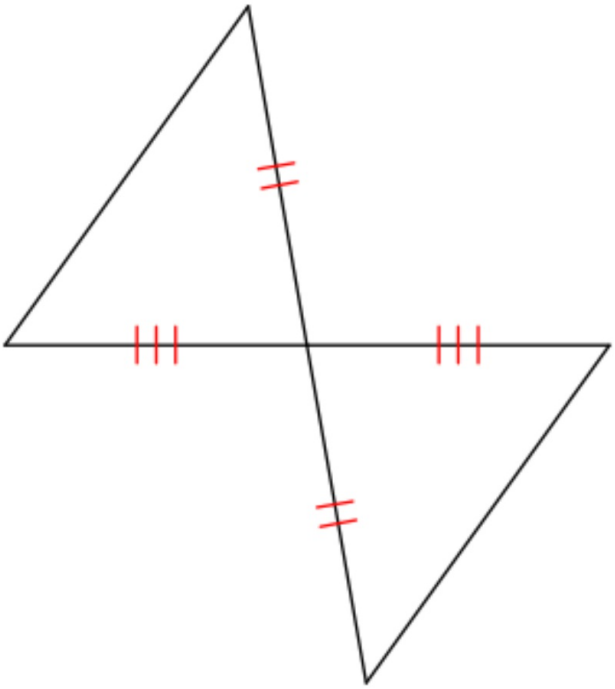


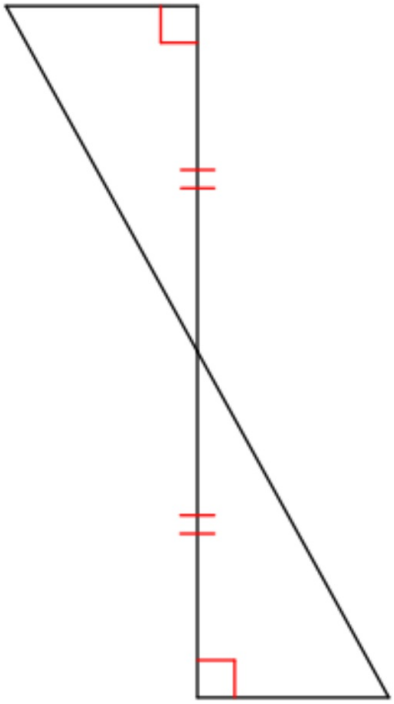


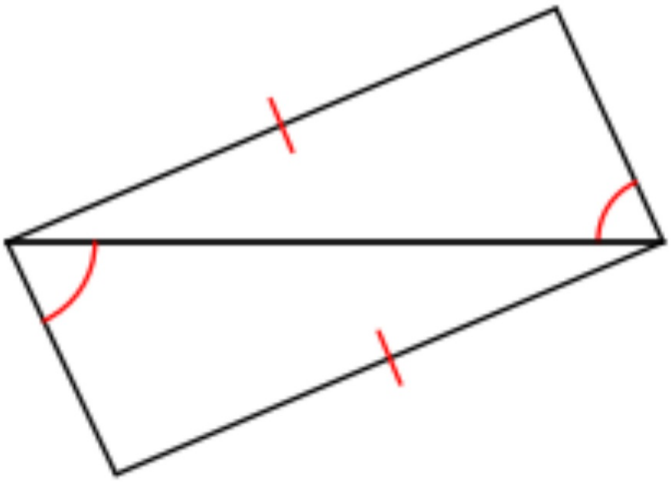




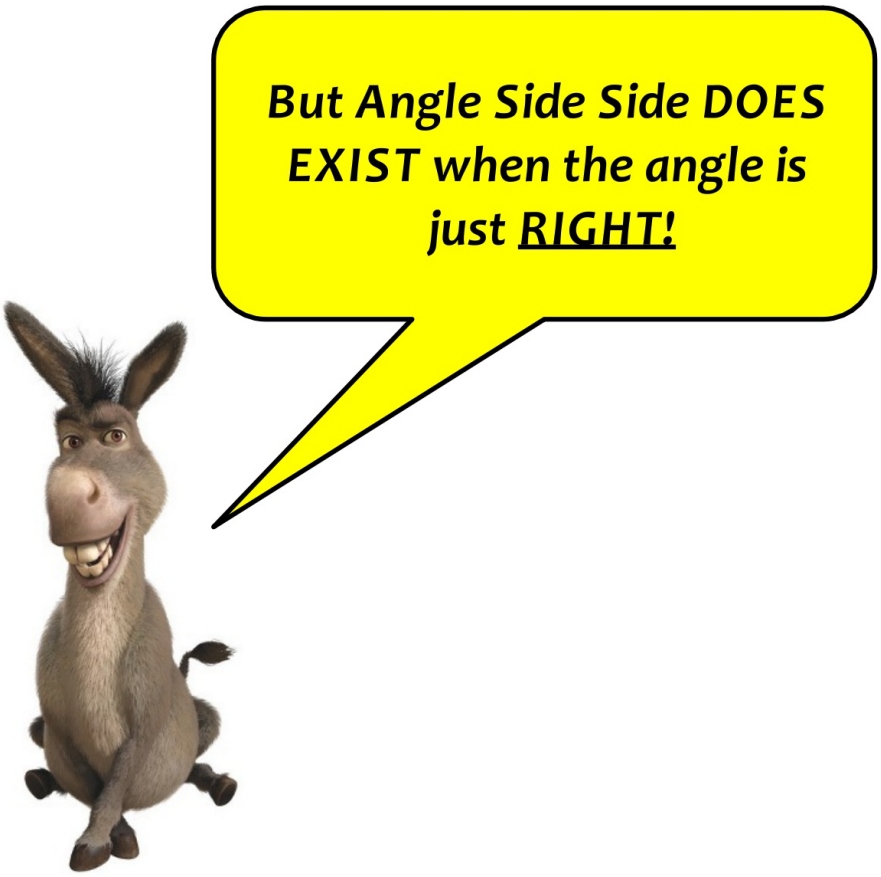






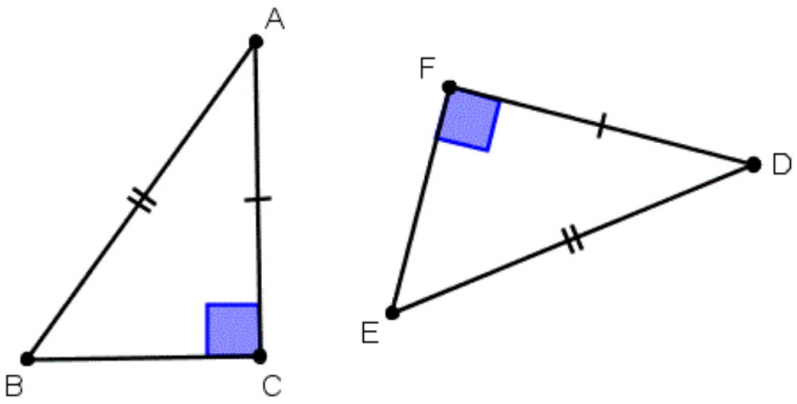


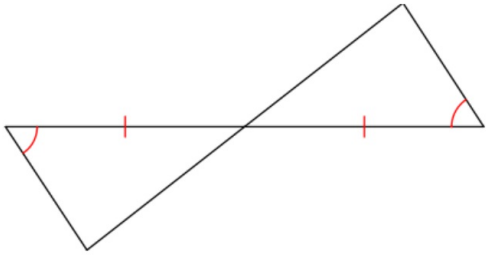
Fin.



Hypotenuse Leg is the 5th postulate

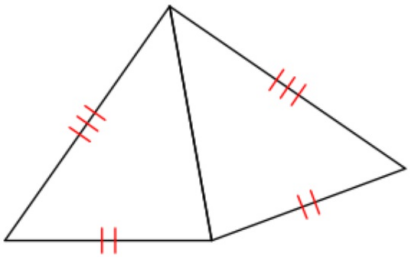
Picture:

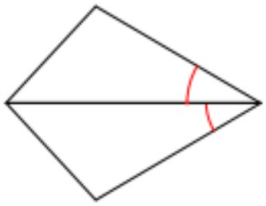




Vertical Angle Property

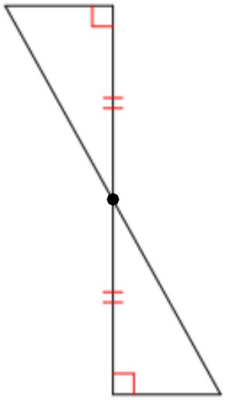
Reflexive Property

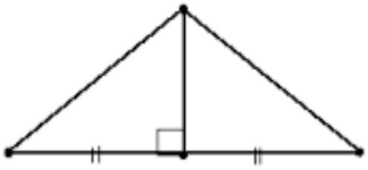




Definition of Bisector

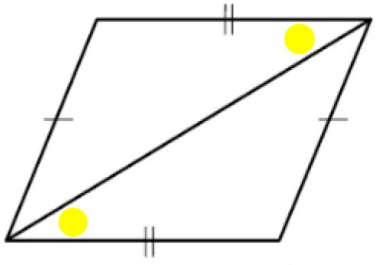
Definition of Midpoint





Definition of Perpendicular Bisector

Alternate Interior Angles

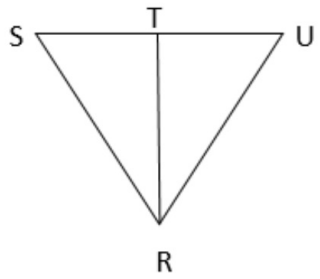


1) Given:

$RS \cong RU,\ TS \cong TU, < S \cong < U, < SRT \cong < URT$

Prove:

$\Delta RST \cong \Delta RUT$

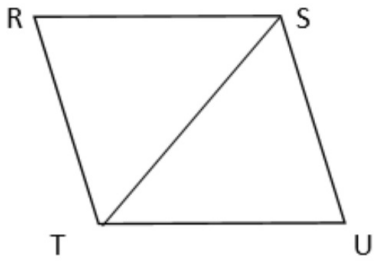


2) Given:

$RS \cong UT,\ RT \cong SU$

Prove:

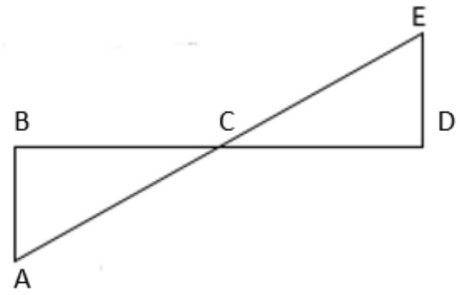
$\Delta RST \cong \Delta UTS$



3) Given: $< B \ \& < D \ are \ 90°, \ AE \ bisects \ BD$

Prove:

$\Delta ABC \cong \Delta EDC$

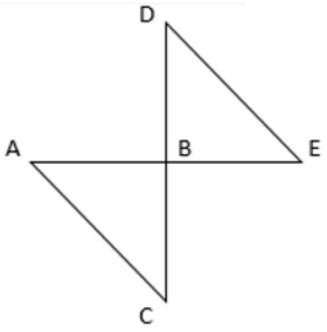


4) Given:

$DC \mid AE, DE \cong AC, B \ is \ the \ midpoint \ of \ AE$

Prove:

$\Delta BDE \cong \Delta BCA$

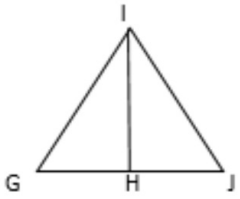


5) Given:

H is the midpoint of GJ, $GI \cong IJ$

Prove:

$\Delta GHI \cong \Delta JHI$

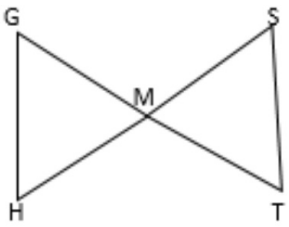


6) Given:

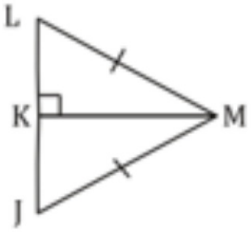
M is the midpoint of GT, M is the midpoint of HS

Prove:

$\Delta GMH \cong \Delta TMS$

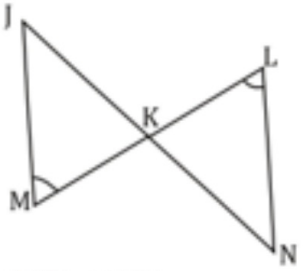


7) Given: $\overline{LM} \cong \overline{JM}$



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

8) Given: $\overline{JN}$ Bisects $\overline{ML}$, $\angle M \cong \angle L$



Prove: $\triangle MJK \cong \triangle LNK$