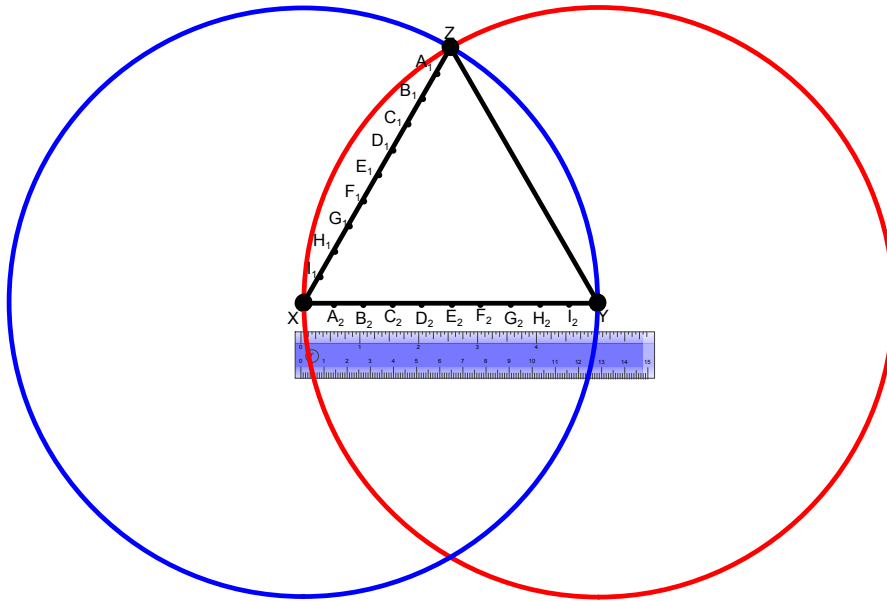
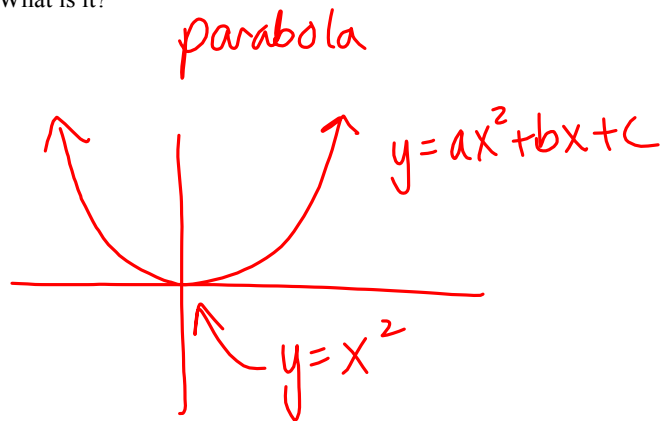
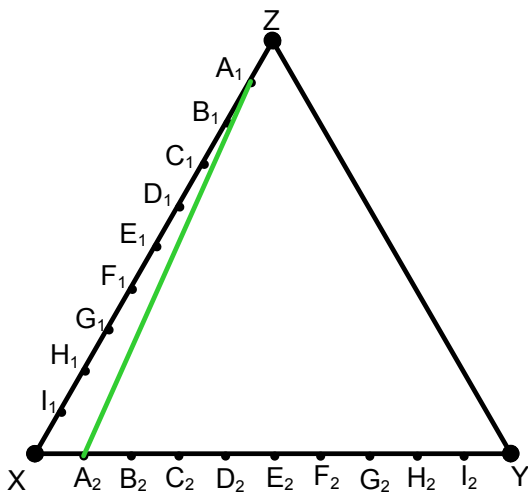


30. Use your ruler to draw a horizontal line segment 5 inches long in the center of a sheet of paper. Label it XY. Construct equilateral triangle XYZ having XY as its base. Use your ruler to mark points on XY 0.5 inch apart; do the same on XZ. Label the points as shown.



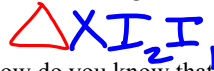
Use your straightedge to draw line segments between the points labeled with the same letter ( $A_1A_2$ ,  $B_1B_2$ , etc.)

31. Something appears to be in the figure that isn't really there. What is it?



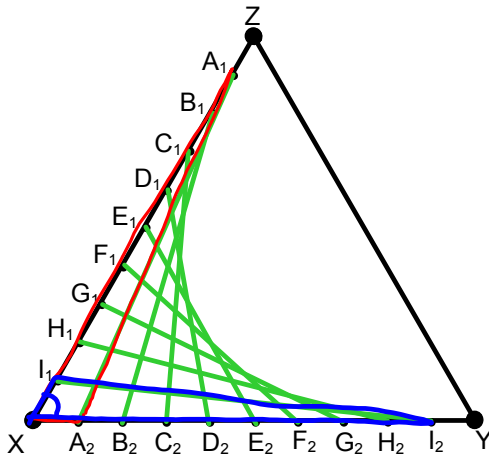
The finished figure contains many pairs of congruent triangles.

32. To which triangle is  $\triangle XA_1A_2$  congruent?



33. How do you know that these triangles are congruent?

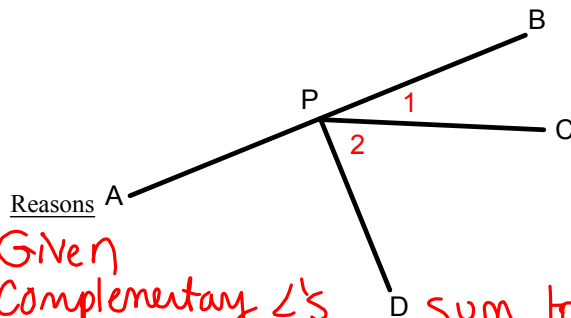
SAS  $XA_1 = XI_2$   
 $XA_2 = XI_1$   
 $\angle X = \angle X$



3.7 #44

Given:  $\angle 1$  and  $\angle 2$  are complementary;  
 PB-PC-PD.

Prove:  $AB \perp PD$ .



Statements

1.  $\angle 1$  and  $\angle 2$  are complementary
2.  $\angle 1 + \angle 2 = 90^\circ$
3. PB-PC-PD
4.  $\angle BPD = \angle 1 + \angle 2$
5.  $\angle BPD = 90^\circ$
6.  $\angle BPD$  is a right angle

7.  $AB \perp PD$

Reasons  
 Given  
 Complementary  $\angle$ 's sum to  $90^\circ$   
 Given  
 Betweenness of Rays Theorem  
 Substitution (#2 & 4)  
 Right  $\angle$ 's measure  $90^\circ$   
 Lines that meet @ right  $\angle$ 's are perpendicular

4.4 #31

Given:  $\angle BGU$  and  $\angle EGL$  are vertical angles;  
 $BG=GE$  and  $UG=GL$

Prove:  $BU=LE$

1.  $\angle BGU = \angle EGL$

vertical angles are =

2.  $\triangle BGU \cong \triangle EGL$

SAS

3.  $BU = LE$

corresponding parts  
of congruent  $\triangle$ 's are =

