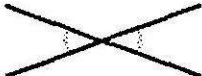
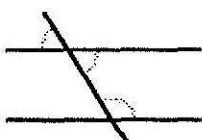
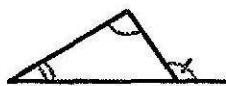


Fundamental Properties

In order to be able to prove properties of figures, we must first explicitly state fundamental properties we can use to support our proofs. Let's summarize here the main fundamental properties we have learned so far, which will be used very often from now on.

Fundamental Properties	
<ul style="list-style-type: none"> Vertical angles are equal. 	
<ul style="list-style-type: none"> If one straight line intersects two other lines, <ul style="list-style-type: none"> if the two other lines are parallel, then the corresponding angles and the alternate interior angles are equal. if the corresponding angles or the alternate interior angles are equal, then the two lines are parallel. 	
<ul style="list-style-type: none"> The sum of the exterior angles of a triangle is equal to the sum of the two non-adjacent interior angles. 	
<ul style="list-style-type: none"> The sum of the interior angles of a triangle is $2\angle R$. 	
<ul style="list-style-type: none"> Conditions for congruent triangles: <ol style="list-style-type: none"> All three corresponding sides are equal. Two corresponding sides and the angle between them are equal. One corresponding side and the two angles at each end of it are equal. 	