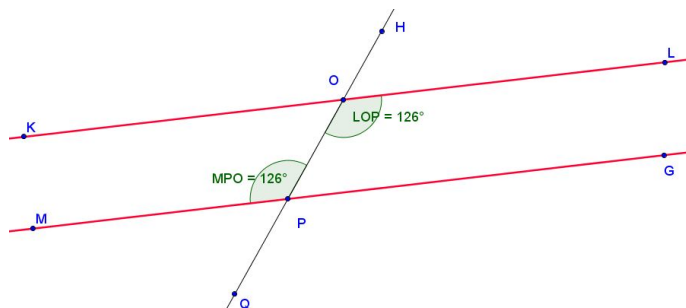


## Student Activity Theorem 3

Use in connection with interactive file “Theorem 3” on the Student’s CD.



1. What do you notice about the measure of the angles LOP and MPO?  
 \_\_\_\_\_  
 Drag the point H to make the measure of the angle LOP =  $100^\circ$  .  
 Write down the measure of the angle MPO. MPO = \_\_\_\_\_  
 Are the measures of the two angles LOP and MPO equal in measure? \_\_\_\_\_.
  
2. Drag the point H to make the measure of the angle MPO =  $73^\circ$  .  
 What is the measure of the angle LOP? \_\_\_\_\_ .  
 Are the measures of the two angles MPO and LOP equal? \_\_\_\_\_
  
3. The angles LOP and MOP are called ALTERNATE angles. Drag the point H to various positions. Are these angles LOP and MOP always equal? \_\_\_\_\_
  
4. Click on Tick Box 1 to show the wording of this theorem. Are the lines *a* and *b* parallel in this case? \_\_\_\_\_
  
5. Name another pair of alternate angles in the diagram.  
 (i) \_\_\_\_\_ (ii) \_\_\_\_\_  
 Write down the measure of these angles (i) \_\_\_\_\_ (ii) \_\_\_\_\_  
 Are the measures of these angles equal? \_\_\_\_\_
  
6. Click on Tick Box 2 to show the wording of the converse of this theorem.

7. If you were told that the line segments [KL] and [MG] were parallel what can we say about the measures of the following pairs of angles,

LOP and MOP \_\_\_\_\_

KOP and OPG \_\_\_\_\_

Drag the point H to make the angle MPO equal to  $50^\circ$  and then write down the measures of the following angles.

(i) LOP \_\_\_\_\_

(ii) KOP \_\_\_\_\_

(iii) GPO \_\_\_\_\_