Date: Title:

(A) Lesson Objectives:

a. **Introduce the Side Splitting Theorem using online videos**
b. **Show worked examples using the Side Splitting Theorem**
c. **Practice using the Side Splitting Theorem**

(B) **Videos**:

a. http://www.onlinemathlearning.com/similar-polygons-geometry.html - Watch the first video
b. http://www.youtube.com/watch?v=igK6K_OsrHs
c. http://www.youtube.com/watch?v=tYNerh7a1qs&feature=related

(C) **Side Splitting Theorem**

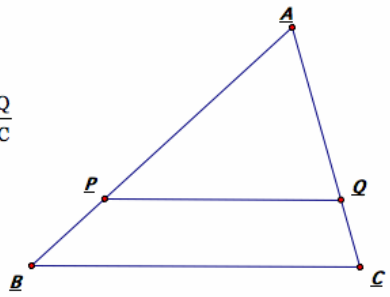
The Side-Splitting Theorem tells us: A line parallel to a side of a triangle that intersects the other two sides in distinct points splits these sides into proportional segments.

Given:

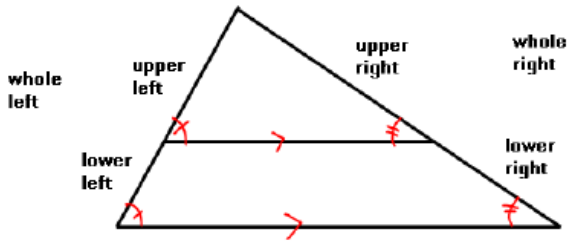
$\overleftrightarrow{PQ} \parallel \overleftrightarrow{BC}$

Prove:

$\frac{AP}{PB} = \frac{AQ}{QC}$



Some proportions that result from the Side-Splitting Theorem



$\frac{UL}{LL} = \frac{UR}{LR}$

$\frac{UL}{UR} = \frac{LL}{LR}$

$\frac{LL}{WL} = \frac{LR}{WR}$

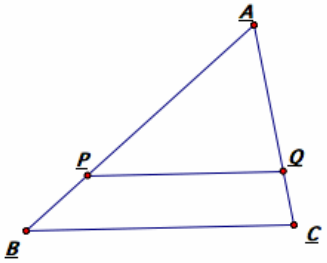
$\frac{UL}{WL} = \frac{UR}{WR}$

(D) **Converse of the ITT**:

The Converse of the Side-Splitting Theorem says: If a line divides two sides of a triangle proportionally (the ratio of the segments on one side equals the ratio of the corresponding segments on the other side), then the line is parallel to the third side.

Theorem (Converse of the corollary . . .)

If $\frac{AB}{AP} = \frac{AC}{AQ}$ then $PQ \parallel BC$



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(E) Worked Examples:

Students will WRITE OUT THIS EXAMPLES inot their notes as you show worked examples on pages 4, 6, 7 from http://teachers.greenville.k12.sc.us/sites/mbsmith/Lists/Geometry%20Honors/Attachments/378/04-26%20Hon.pdf

(F) CLASS WORK:

Use work sheet from:

http://www.kutasoftware.com/FreeWorksheets/GeoWorksheets/7-Proportional%20Parts%20in%20Triangles%20and%20Parallel%20Lines.pdf