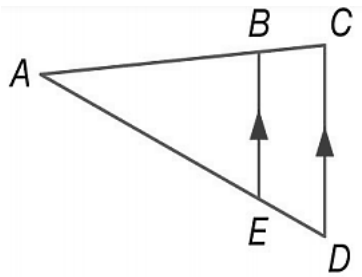
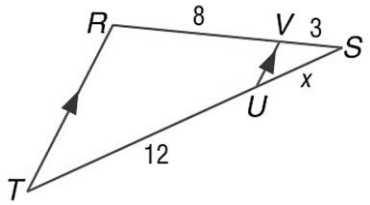
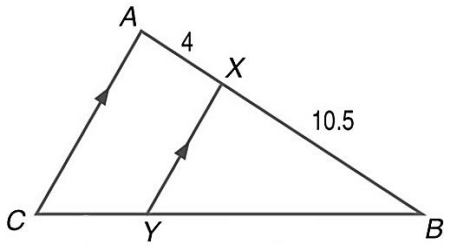
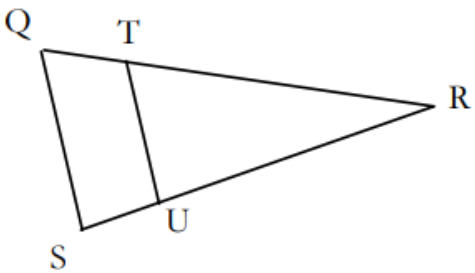
Topic: Triangle Proportionality Theorem **Date**: _____

Learning Objective(s):

_____

_____

Main Ideas/ Questions	**Notes**
Triangle Proportionality Theorem	**Triangle Proportionality Theorem** If a line is _____ to one side of a triangle and it _____ the other two sides, then it divides the sides into segments of _____ lengths If $\overline{BE} \parallel \overline{CD}$, then $\frac{AB}{BC} = \frac{AE}{ED}$ 
Examples	If $\overline{RT} \parallel \overline{VU}$, $SV = 3$, $VR = 8$, and $UT = 12$. Find SU.  If $\overline{AC} \parallel \overline{XY}$, $AX = 4$, $XB = 10.5$, and $CB = 21.75$. Find BY.  If $\overline{TU} \parallel \overline{QS}$, $QR = 10$, $\mathrm{QT} = 2$, $SR = x$, and $SU = 4$. Solve for x. 

Topic: Triangle Proportionality Theorem **Date**: _____

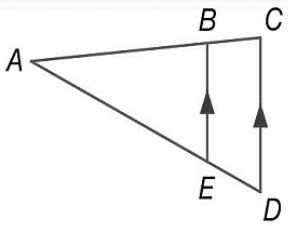
Main Ideas/ Questions

Notes

Converse of Triangle Proportionality Theorem

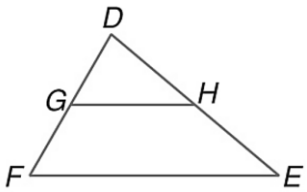
If a line intersects two sides of a triangle and separates the sides into _____ corresponding segments, then the line is _____ to the third side of the triangle.

If $\frac{AB}{BC} = \frac{AE}{ED}$, then $\overline{BE} \parallel \overline{CD}$

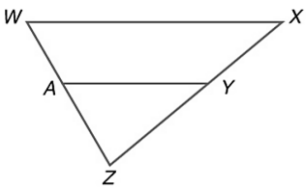


Examples

$DH = 18$, $HE = 36$, $DG = 9$, and $DF = 27$. Determine if $\overline{GH} \parallel \overline{FE}$.



$XY = 15$, $YZ = 25$, $WA = 18$, and $AZ = 32$. Determine if $\overline{WX} \parallel \overline{AY}$.

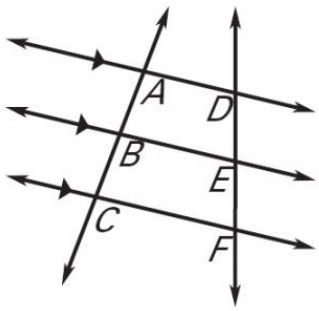


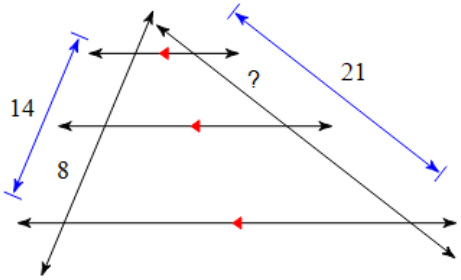
Parallel Line Application

Two-Transversal Proportionality

If _____ or more parallel lines intersect _____ transversals, then they divide the transversals _____

If $\overleftrightarrow{AD} \parallel \overleftrightarrow{BE} \parallel \overleftrightarrow{CF}$, then $\frac{AB}{BC} = \frac{DE}{EF}$



Example:

Solve for the missing length.