

Ex. 3 Ex. 4 Ex. 5

§7.4 Parallel Lines & Proportional Parts

- Theorem: Triangle Proportionality Theorem
 - If a , then

Example

- In the diagram $\overline{AB} \parallel \overline{ED}$, $BD = 8$, $DC = 4$, and $AE = 12$. What is the length of \overline{EC} ?

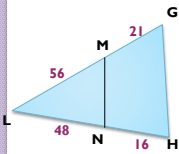
Using the Triangle Proportionality Theorem, we have:

$$\frac{\quad}{\quad} = \frac{EC}{\quad}$$

Theorem: Converse of the Triangle Proportionality Theorem

- If then

Example 2. Determine whether or not $\overline{MN} \parallel \overline{GH}$.

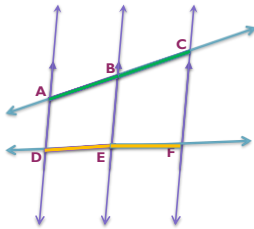


By the Converse of the Triangle Proportionality Theorem, it

?

Theorem.

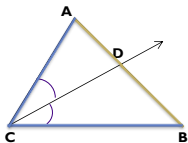
If then



=

Theorem

If a then it divides the



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Triangle Proportionality Theorem

3 Parallel Lines Intersecting 2 Transversals

A Ray Bisecting an Angle of a Triangle

Example 3

- In the diagram, $\angle 1 \cong \angle 2 \cong \angle 3$, $AB = 6$, $BC = 9$, $EF = 8$. What is x ?

Triangle Proportionality Theorem

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Example 4

- Find the value of the variable.

Triangle Proportionality Theorem

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Example 5

- In the diagram, $\overline{FJ} \parallel \overline{GI}$. Find the values of the variables.
