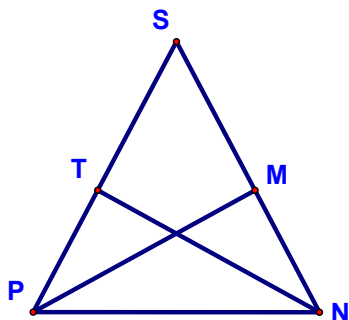# Mr. Baroody's Web Page

Multiplication & Division Properties - Lesson 2-6

Here is our warmup...don't make this too hard...remember that you can use previously proved theorems if it's not asking you to prove a theorem (which it's not).

Given: $\overline{ST} \cong \overline{SM}$
$\overline{TP} \cong \overline{MN}$

Prove: $\overline{SP} \cong \overline{SN}$

Statements	Reasons

Today, we're going to cover a couple of new theorems regarding multiplication and division of segments and angles. Let's start by proving Theorem 14 (the Multiplication Property of Segments and Angles).

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Theorem 14 - If segments (or angles) are ≅, their like multiples are ≅ (Multiplication Property).

Given: $\overline{AB} \cong \overline{EF}$
B, C, F, G are
trisection points.

A ——|—— B ——— C ——— D

E ——|—— F ——— G ——— H

Prove: $\overline{AD} \cong \overline{EH}$

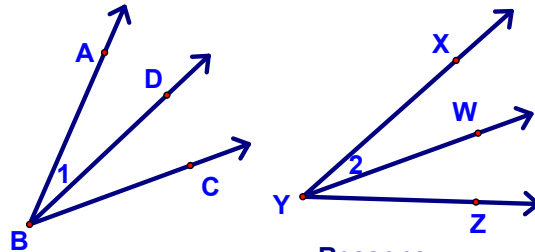| Statements	Reasons

Theorem 15 (the Division Property of Segments and Angles) is pretty similar. You should be able to come up with a proof for this...

Theorem 15 - If segments (or angles) are ≅, their like divisions are ≅ (Division Property).

Theorem 15 - If angles are ≅, their like divisions are ≅ (Division Property of ≅ ∠s).

Given: ∠ABC ≅ ∠XYZ

$\overrightarrow{\text{BD}}$ bisects ∠ABC

$\overrightarrow{\text{YW}}$ bisects ∠XYZ

Prove: ∠1 ≅ ∠2

Statements	Reasons