



CB: Similarity
Geometry

CLASS/PERIOD 6

11/10

ESSENTIAL QUESTION

What are properties of similar shapes?

QUESTIONS

NOTES:

Similar shapes: same shape, but not necessarily the same size or orientation.

Notation: \sim means similar

2 shapes are similar if

- ① All corresponding angles are congruent
- ② Corresponding sides are in proportion

Eg:



* Figures are not drawn to scale

$$\triangle ABC \sim \triangle DEF$$

similarity statement

the letters are written in a specific order to tell which sides and angles are corresponding.

$$\begin{aligned} \angle A &\cong \angle D \\ \angle B &\cong \angle E \\ \angle C &\cong \angle F \end{aligned}$$

Corresponding angles are \cong

$$\frac{AB}{ED} = \frac{BC}{EF} = \frac{AC}{FD}$$

$$\text{check } \frac{1}{2} = \frac{1.5}{3} = \frac{2}{4}$$

SUMMARY:



TOPIC/OBJECTIVE: GB: Similarity
CONTENT/CLASS: Geometry

NAME: _____
CLASS/PERIOD: 5
DATE: 11/13/15

CENTRAL QUESTION

what tools do we have to decide if triangles are similar.

QUESTIONS

NOTES

use this to decide if triangles are similar
Similarity Conjectures Toolkit

Side-Side-Side (SSS) Similarity Conjecture

Definition:

If 3 sides of a Δ are in proportion to 3 ~~sides~~ corresponding sides of another Δ , then the Δ s are similar.

Example:

*check ratios of all corresponding sides
 $\frac{2}{1} = 2$ $\frac{4}{2} = 2$ $\frac{6}{3} = 2$ ← all are the same
 Similar by SSS

Angle-Angle (AA) Similarity Conjecture

Definition:

If 2 angles in a Δ are congruent to 2 corresponding angles in another triangle, then the triangles are similar.

Example:

Since $\angle A \cong \angle F$ and $\angle B \cong \angle D$
 Similar by AA

Side-Angle-Side Similarity Conjecture

Definition:

If 2 sides of a triangle are in proportion to 2 corresponding sides in another triangle and the angles between these sides are congruent, then the triangles are similar.

Example:

$\frac{6}{3} = 2$ $\frac{8}{4} = 2$ and $\angle A \cong \angle E$
 Similar by SAS

SUMMARY: