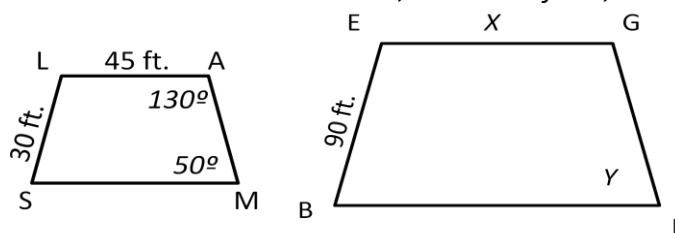


Section 11.2-Similar Triangles

Similar Polygons -- Review

- ⊙ What are the properties of similar polygons?
 - They have congruent angles.
 - Their sides are proportional
- ⊙ We can find missing measurement with similar polygons.

Assume: $SMAL \sim BIGE$, and solve for X, Y



$X =$ 135 ft.

$Y =$ 50°

$$\frac{x}{45} = \frac{90}{30} \text{ or } \frac{x}{90} = \frac{45}{30}$$

$$X = 3 * 45 = 135 \text{ ft.}$$

So...why do we care about Similar Triangles?

- ⊙ Triangles have special properties
 - Congruence shortcuts:
 - SSS – “Side-Side-Side”
 - SAS – “Side-Angle-Side”
 - AAS – “Angle-Angle-Side”
 - ASA- “Angle-Side-Angle”

Why do we care about Similar Triangles?

(Continued)

- Could they have similarity shortcuts?
- What would the “Side” part of similarity shortcuts mean?

“Side” in this case means that the corresponding sides in each triangle would have the same proportions.

Will just “Angle” Work?

- ⊙ Are two triangles similar if you only know that one pair of corresponding angles are congruent?

No, knowing that two triangles have two sets of corresponding side are proportional is inconclusive.

Will “Side-Side” Work?

- ⊙ Are two triangles similar if given that two sets of corresponding sides are proportional?

No, just knowing that two triangles have two sets of corresponding side are proportional is inconclusive to prove similarity.

Will “Side-Side-Angle” Work?

No, just knowing that two triangles have two sets of corresponding side are proportional and non-inclusive pair of congruent angle is inconclusive for proving similarity.