

## Sec. 8.3 Congruent Polygons

**What does congruent mean?**

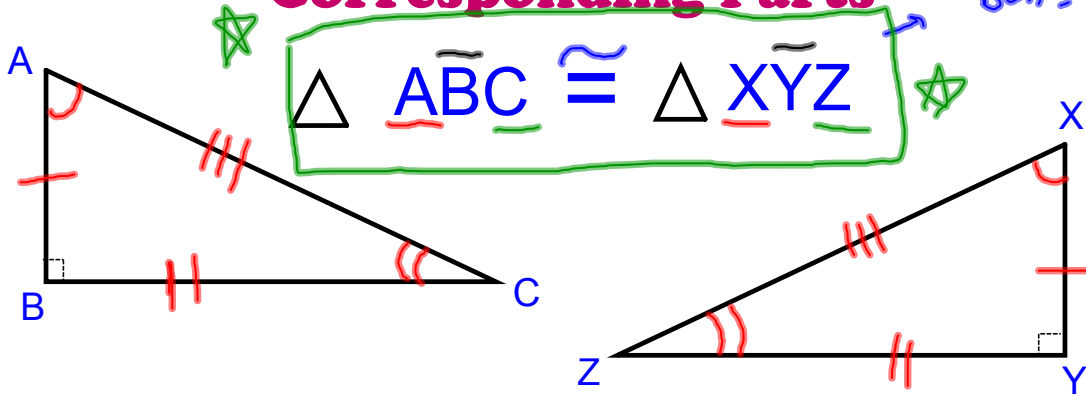
**What do you think are congruent polygons?**

**Polygons that have the same shape and size.**

**★ Corresponding parts (sides and angles) are congruent ★**

## Corresponding Parts

$$\triangle BCA \cong \triangle YZX$$



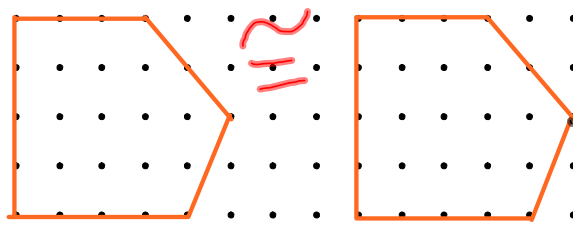
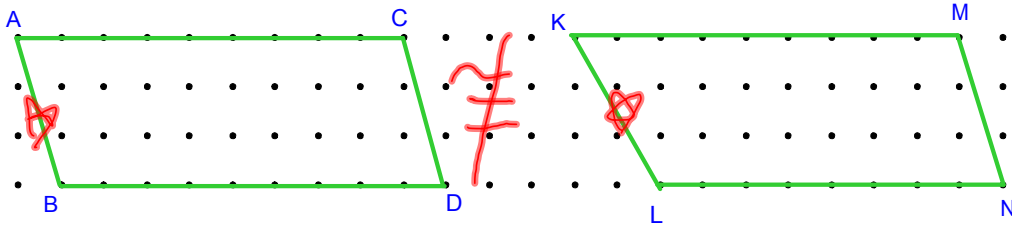
### Corresponding angles

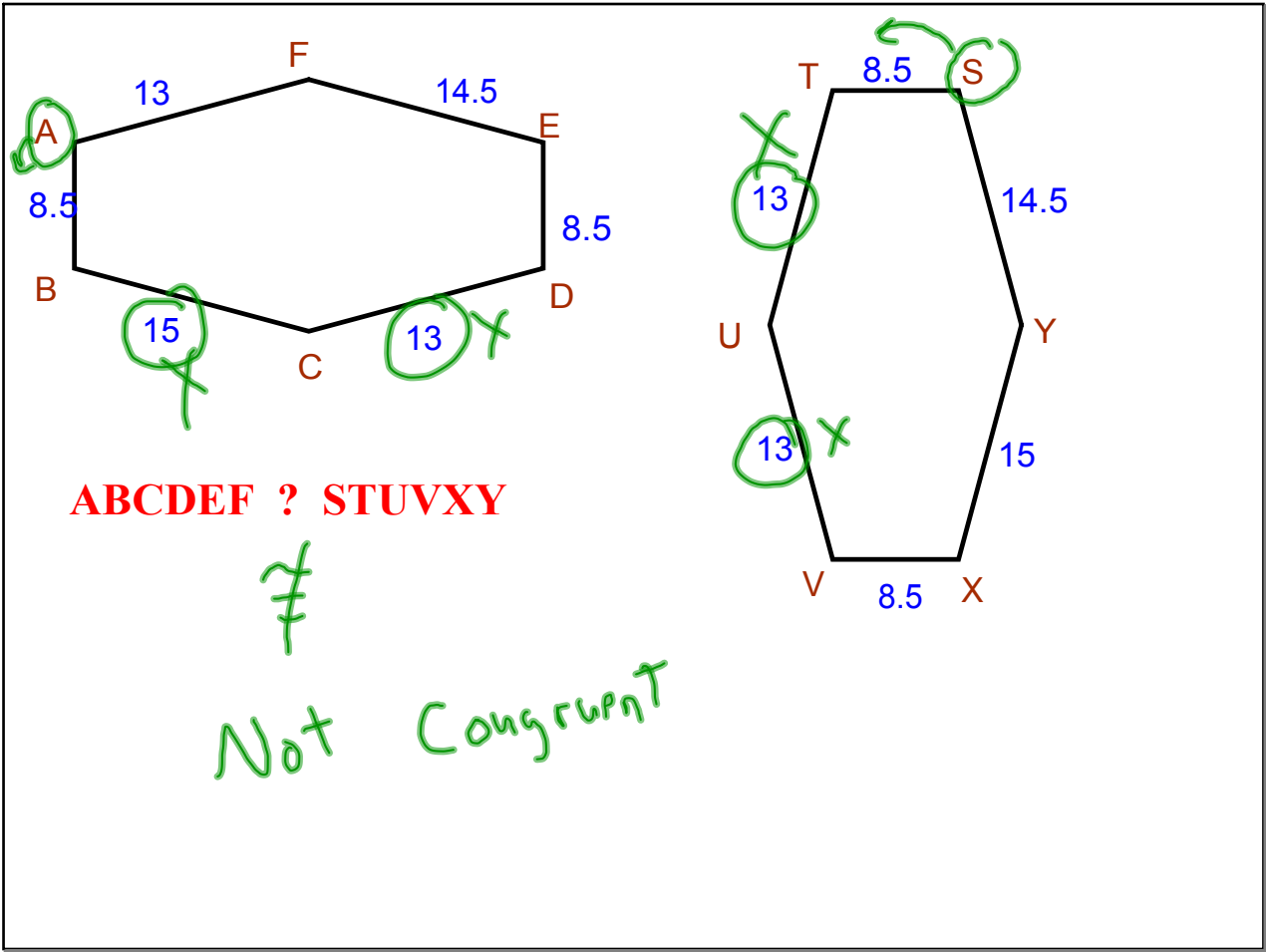
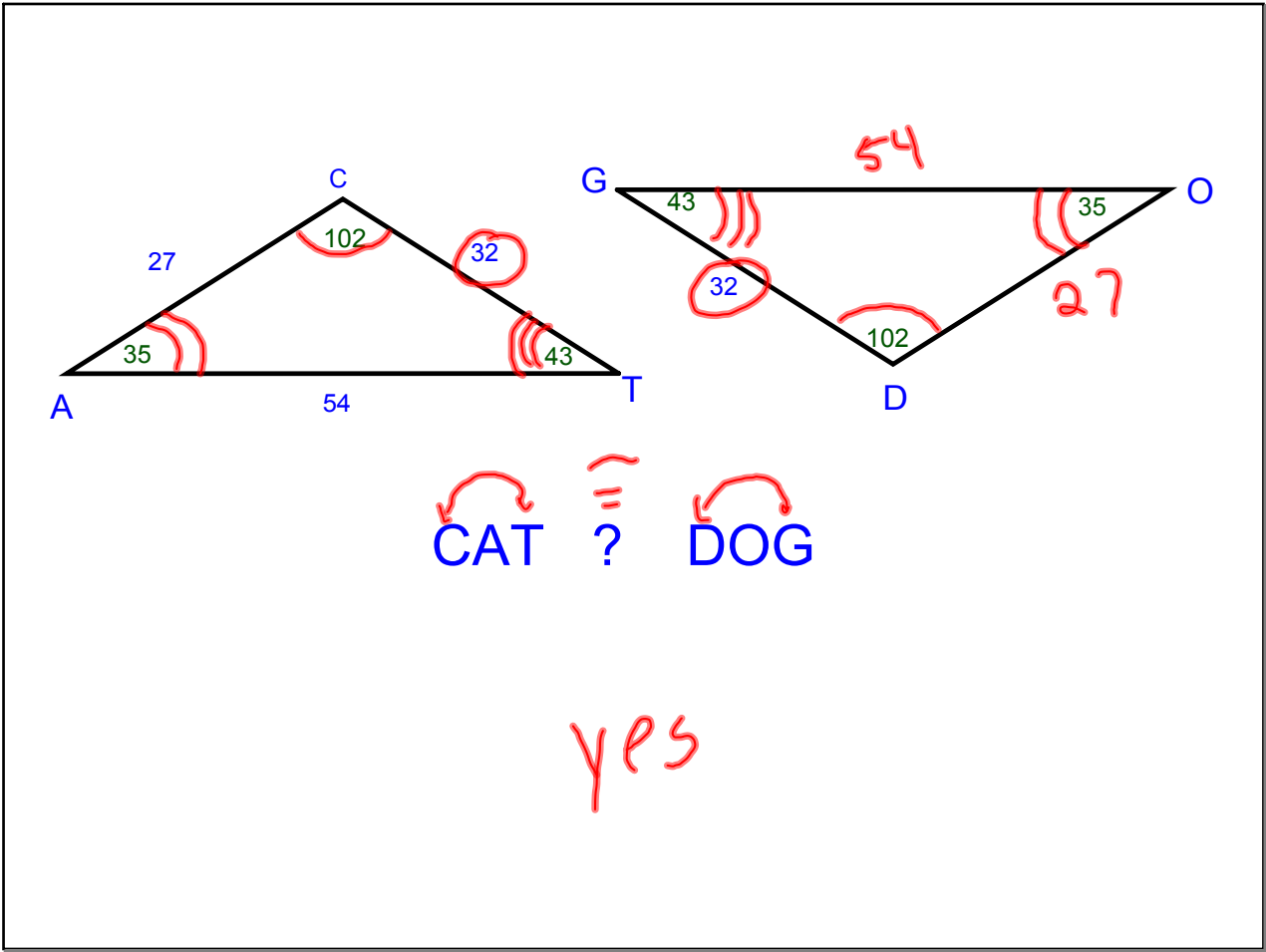
$$\begin{aligned} \angle B &\cong \angle Y \\ \angle C &\cong \angle Z \\ \angle A &\cong \angle X \end{aligned}$$

### Corresponding Sides

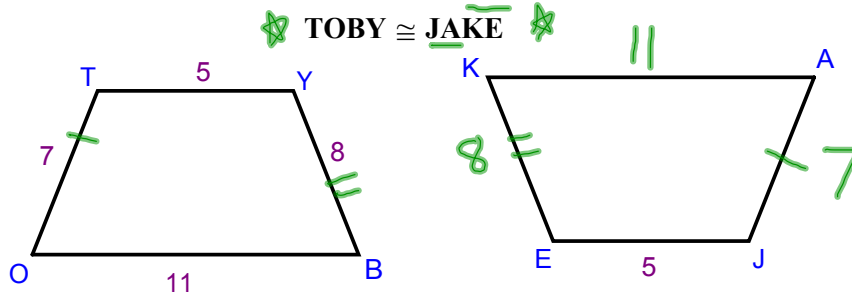
$$\begin{aligned} AB &\cong XY \\ BC &\cong YZ \\ AC &\cong XZ \end{aligned}$$

## Are the figures congruent?





**These figures are congruent. Write six congruences involving corresponding parts of the quadrilaterals.**



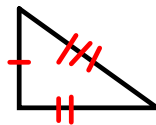
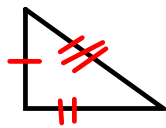
**Now find missing side lengths.**

~~AAA~~  
~~ASS~~

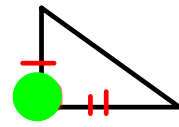
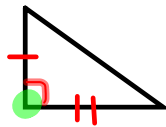
### Showing Triangles Congruent

S = side  
A = angle

**Side - Side - Side**  
(SSS)

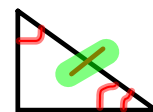
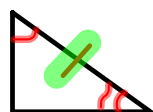


**Side - Angle - Side**  
(SAS)



included  
angle

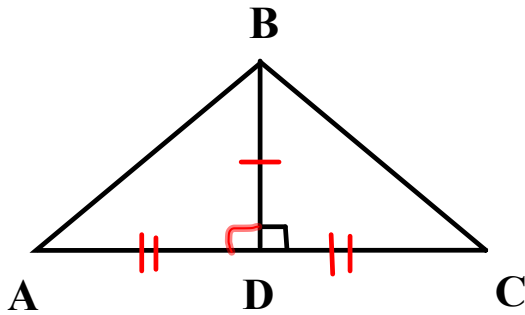
**Angle - Side - Angle**  
(ASA)



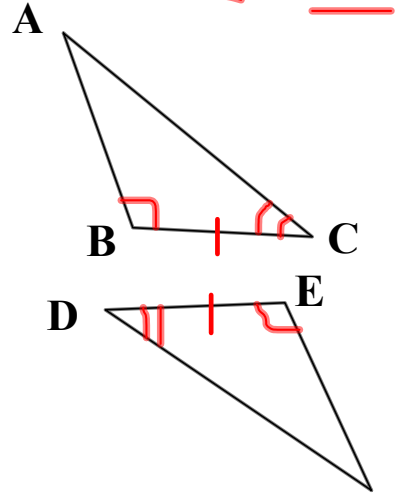
included  
side

Show each pair of triangles is congruent

SSS, SAS, ASA



$\triangle ADB \cong \triangle CDB$   
S.A.S



$\triangle CBA \cong \triangle EDF$   
A.S.A.

# Homework

**p.423, # 1, 3, 6-20 all, 24, 25, 33**