Geometry

Chapter 4

Section 4-3

May 13-10:02 PM

Drawing conclusions from a diagram

$\overleftrightarrow{AB}$ is a bisector of $\angle CDF$

$\angle CDA \cong \angle FDA$

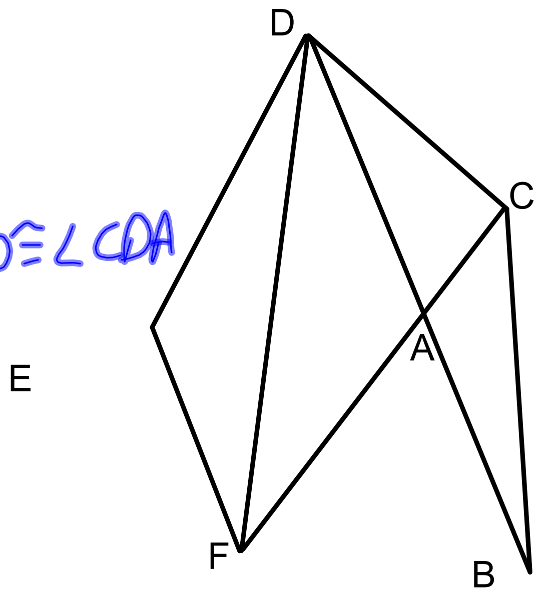
A is a midpoint of $\overline{DB}$

$\overline{DA} \cong \overline{AB}$

$\overline{EF} \parallel \overline{DA}$

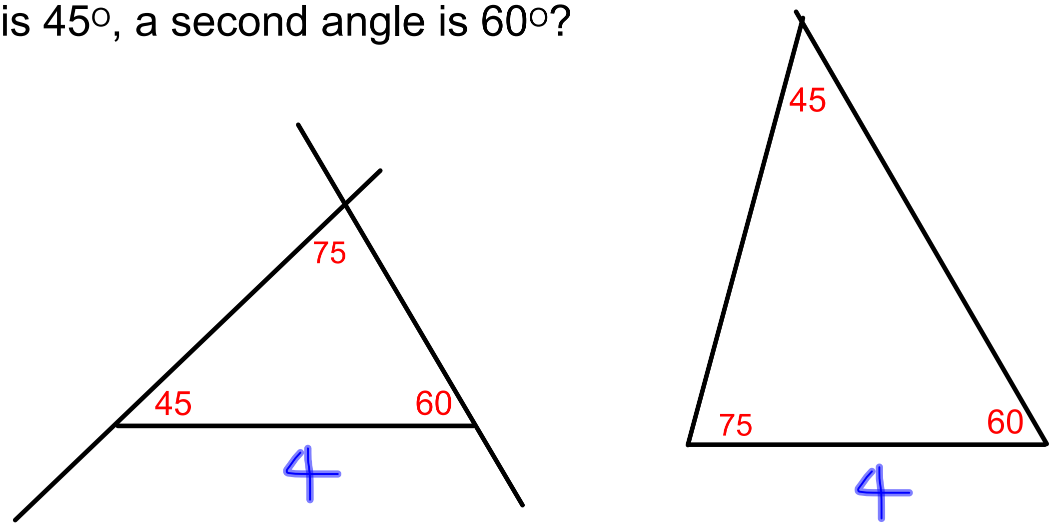
$\angle EFD \cong \angle FDA$

$\angle EFD \cong \angle CDA$



Oct 11-11:04 AM

Challenge: Can you create noncongruent triangles that each have the following measures... One side is 4, one angle is 45°, a second angle is 60°?



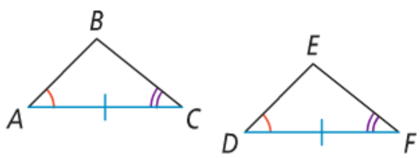
Oct 11-10:58 AM

take note

Postulate 4-3 Angle-Side-Angle (ASA) Postulate

Postulate
If two angles and the included side of one triangle are congruent to two angles and the included side of another triangle, then the two triangles are congruent.

If . . .
$\angle A \cong \angle D$, $\overline{AC} \cong \overline{DF}$, $\angle C \cong \angle F$



Then . . .
$\triangle ABC \cong \triangle DEF$

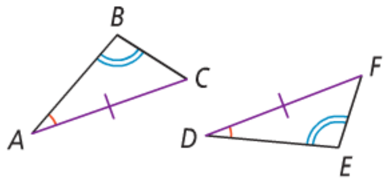
Oct 16-10:23 PM

take note

Theorem 4-2 Angle-Angle-Side (AAS) Theorem

Theorem
If two angles and a nonincluded side of one triangle are congruent to two angles and the corresponding nonincluded side of another triangle, then the triangles are congruent.

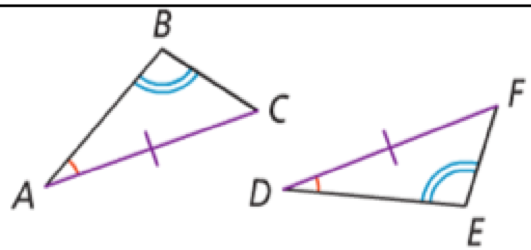
If . . .
$\angle A \cong \angle D$, $\angle B \cong \angle E$,
$\overline{AC} \cong \overline{DF}$



Then . . .
$\triangle ABC \cong \triangle DEF$

Oct 21-8:27 AM

Given: $\angle A \cong \angle D$, $\angle B \cong \angle E$,
$\overline{AC} \cong \overline{DF}$
Prove: $\triangle ABC \cong \triangle DEF$



$\angle A \cong \angle D$, $\angle B \cong \angle E$, $\overline{AC} \cong \overline{DF}$ — Given

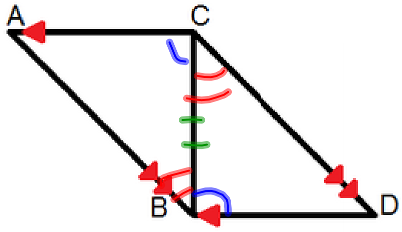
$\angle C \cong \angle F$ — 3rd ∠s Thm

$\triangle ABC \cong \triangle DEF$ — ASA

Oct 21-8:34 AM

Given: $\overline{AC} \parallel \overline{BD}$, $\overline{AB} \parallel \overline{CD}$

Prove: $\Delta ABC \cong \Delta DCB$



$\overline{AC} \parallel \overline{BD}$, $\overline{AB} \parallel \overline{CD}$ Given

$\overline{BC} \cong \overline{BC}$ Reflexive

$\angle BCA \cong \angle CBD$ Alt. Int $\angle$s Thm

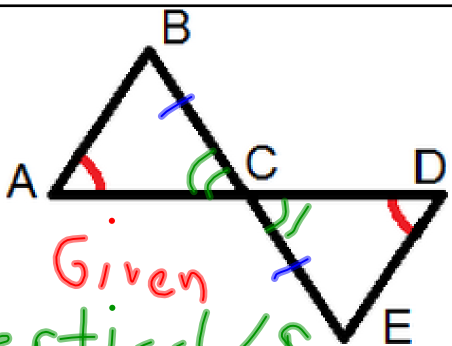
$\angle ABC \cong \angle BCD$ Alt. Int. $\angle$s Thm

$\Delta ABC \cong \Delta DCB$ ASA

Oct 16-10:36 PM

Given: $\angle A \cong \angle D$, C is the midpoint of $\overline{BE}$

Prove: $\Delta ABC \cong \Delta DEC$



$\angle A \cong \angle D$, C is mdpt of $\overline{BE}$ Given

$\angle BCA \cong \angle DCE$ Vertical $\angle$s

$\overline{BC} \cong \overline{CE}$ Def. of midpoint

$\Delta ABC \cong \Delta DEC$ AAS

Oct 16-10:37 PM

Homework

Pages 238 - 240

#11 - 20 all, 25 - 28 all

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