Starter

Find the angle measure.

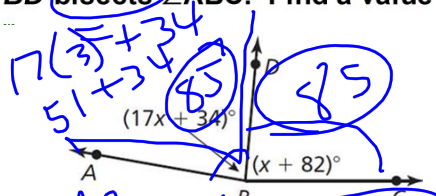
1. ∠1 is a supplement of ∠2 and $m\angle 1 = 32°$. Find $m\angle 2$. $180 - 32 = 148$

2. ∠3 is a supplement of ∠4 and $m\angle 3 = 155°$. Find $m\angle 4$. $180 - 155 = 25$

3. ∠5 is a complement of ∠6 and $m\angle 5 = 59°$. Find $m\angle 6$. $90 - 59 = 31$

4. ∠7 is a complement of ∠8 and $m\angle 7 = 18°$. Find $m\angle 8$. $90 - 18 = 72$

$\overrightarrow{BD}$ bisects ∠ABC. Find a value for x and $m\angle ABD$, $m\angle DBC$, and $m\angle ABC$.



$17(3) + 34$

$51 + 34$

85

85

$m\angle ABD = 85$

$m\angle DBC = 85$

$m\angle ABC = 170$

$X = 3$

$17x + 34 = x + 82$

$-x \quad -x$

$16x + 34 = 82$

$-34 \quad -34$

$\frac{16x}{16} = \frac{48}{16}$

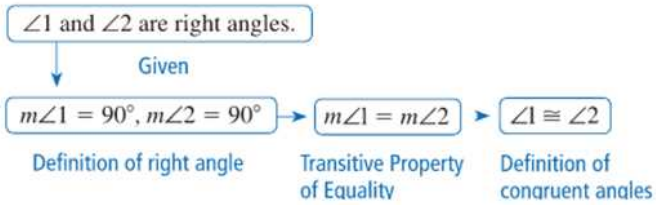
Put on pg. 61 under Theorem 2.3

Use the given flowchart proof to write a two-column proof of the Right Angles Congruence Theorem.

Given ∠1 and ∠2 are right angles.

Prove $\angle 1 \cong \angle 2$

Flowchart Proof



Two-Column Proof

STATEMENTS	REASONS
1. ∠1 and ∠2 are right angles.	1. Given
2. $m\angle 1 = 90°, m\angle 2 = 90°$	2. Definition of right angle
3. $m\angle 1 = m\angle 2$	3. Substitution
4. $\angle 1 \cong \angle 2$	4. Definition of congruent angles

pg. 63

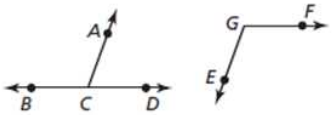
2.6 Notetaking with Vocabulary (continued)

Extra Practice

1. Complete the flowchart proof. Then write a two-column proof.

Given $\angle ACB$ and $\angle ACD$ are supplementary.
$\angle EGF$ and $\angle ACD$ are supplementary.

Prove $\angle ACB \cong \angle EGF$



$m\angle ACB + m\angle ACD = m\angle EGF + m\angle ACD$

$\angle ACB$ and $\angle ACD$ are supplementary. — Given

→ $m\angle ACB + m\angle ACD = 180°$ — Def. of supp. angles

→ [ ] — Transitive Property of Equality

∠EGF and ∠ACD are supplementary — Given

→ $m\angle EGF + m\angle ACD = 180°$ — Def. of supp. angles

→ $m\angle ACB = m\angle EGF$ — Subtraction Property of Equality

→ $\angle ACB \cong \angle EGF$ — Def. of $\cong$ angles

Review Chapter 2