

HW
pg 124-126
12, 19-22
***Turn in: 13, 18,
23 Two-Column
Proofs***

Geometry

**Chapter 2
Section 2-6**

Vocabulary

Theorem

Conjecture or statement that has been proven true

Finding Angles from Given Information

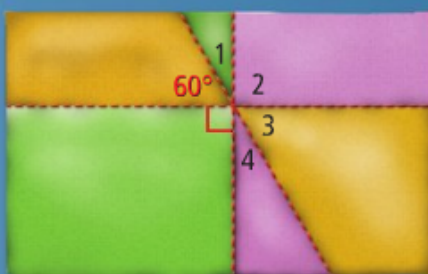
$$m\angle 1 = 30$$

$$m\angle 3 = 60$$

$$m\angle 2 = 90$$

$$m\angle 4 = 30$$

A quilter wants to duplicate this quilt but knows the measure of only two angles. What are the measures of angles 1, 2, 3, and 4? How do you know?



Vertical Angles

take note

Theorem 2-1 Vertical Angles Theorem

Vertical angles are congruent.

$$\angle 1 \cong \angle 3 \text{ and } \angle 2 \cong \angle 4$$



Statements

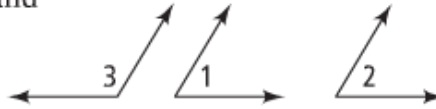
Reasons

1) $\angle 1$ and $\angle 3$ are vertical angles.	1) Given
2) $\angle 1$ and $\angle 2$ are supplementary. $\angle 2$ and $\angle 3$ are supplementary.	2) \sphericalangle that form a line are supplementary.
3) $m\angle 1 + m\angle 2 = 180$ $m\angle 2 + m\angle 3 = 180$	3) The sum of the measures of supplementary \sphericalangle is 180.
4) $m\angle 1 + m\angle 2 = m\angle 2 + m\angle 3$	4) Transitive Property of Equality
5) $m\angle 1 = m\angle 3$	5) Subtraction Property of Equality
6) $\angle 1 \cong \angle 3$	6) \sphericalangle with the same measure are \cong .

Proofs with Angles

Given: $\angle 1$ and $\angle 3$ are supplements and
 $\angle 2$ and $\angle 3$ are supplements

Prove: $\angle 1 \cong \angle 2$



Statements	Reasons
$m\angle 1, m\angle 3$ supplementary $m\angle 2, m\angle 3$ supplementary	Given
$m\angle 1 + m\angle 3 = 180$ $m\angle 2 + m\angle 3 = 180$	Definition of Supplementary Angles
$m\angle 1 + m\angle 3 = m\angle 2 + m\angle 3$	Transitive Property
$m\angle 1 = m\angle 2$	Subtraction Property of Equality
$\angle 1 \cong \angle 2$	Definition of Congruent Angles

Homework

Pages 124-126

#12, 19-22, Turn in: Two-Column Proofs 13, 18,
23