2.6 Properties of Equality and Congruence

		Equality	Congruence
Reflexive Property	$7=7$	$\overline{AB}=\overline{AB}$	$\angle C \cong \angle C$
Symmetric Property	$x+3=3+x$	$AB=CD, CD=AB$	$\angle A \cong \angle B, \angle B \cong \angle A$
Transitive Property	$a=b, b=c, a=c$	$AB=CD, CD=EF, AB=EF$	$\angle A \cong \angle B, \angle B \cong \angle C, \angle A \cong \angle C$

Example 1: Checkpoint in the middle of pg. 89

1. Transitive Prop. of Equality
2. Reflexive Prop. of Congruence
3. Symmetric Prop of Equality

Example 2: pg. 89

$\overline{MN} \cong \overline{NP}$ $\overline{NP} \cong \overline{PQ}$ $\overline{MN} \cong \overline{PQ}$ Transitive Prop. of Congruence

Example 3: Checkpoint on the bottom of pg. 89.

$\angle 1 \cong \angle 2$ Vertical Angles Thm

$\angle 2 \cong \angle 3$ Given

$\angle 1 \cong \angle 3$ Transitive Prop. of Congruence

Addition Property
Subtraction Property
Multiplication Property
Division Property

both sides of an equation

Substitution Property

$x - 3 = 7$
$+3 \quad +3$

$x + 2 = 5$

$\frac{x}{4} = 8$

$2x = 10$

evaluate $2x+3$ when $x = -2$

Example 4: Example 3 on pg. 90.

Example 5: Checkpoint on the bottom of pg. 90.

$MB = AM$ Definition of midpoint

$AB = AM + MB$ Segment Addition Postulate
part + part = whole

$AB = AM + AM$ Substitution Prop. of Equality

$AB = 2 \cdot AM$ Distributive Prop. of Equality

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Name

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