Answer Key

Lesson 2.6

Practice Level B

1. 1. Given **2.** Given **3.** Substitution Property of Equality **4.** $\overline{HI} \cong \overline{IJ}$ **5.** Given **6.** Transitive Property of Congruence

2. 1. Given **2.** Given **3.** Definition of complementary angles **4.** Transitive Property of Equality **5.** Subtraction Property of Equality **6.** Definition of congruent angles

3. 1. Given **2.** Reflexive Property of Equality **3.** Addition Property of Equality **4.** Segment Addition Postulate **5.** Segment Addition Postulate **6.** Substitution Property of Equality

4. 1. Given **2.** Transitive Property of Angle Congruence **3.** $m\angle 2 = m\angle 4$ **4.** Substitution Property of Equality **5.** $x = 6$; Because the angles are congruent, the measures of the angles are congruent by the definition of congruent angles. Set the measure of the angles equal to each other to find x. **6.** $x = 3$; By the transitive property, $\overline{FG} \cong \overline{JH}$. Set the lengths of the segments equal to each other to find x.

7. $x = 5$; By the transitive property, $\angle ABD \cong \angle EBC$. Because the angles are congruent, the measures of the angles are congruent by the definition of congruent angles. Set the measures of the angles equal to each other to find x. **8.** $x = 4$; Because the segments are congruent, the lengths of the segments are congruent by the definition of congruent segments. Set the lengths of the segments equal to each other to find x.

9. $\overline{UV} \cong \overline{ZY}$, $\overline{UW} \cong \overline{ZX}$ (Given)
$UV = ZY$, $UW = ZX$ (Def. of $\cong$)
$VW = UW - UV$ (Segment Addition Postulate)
$YX = ZX - ZY$ (Segment Addition Postulate)
$YX = UW - UV$ (Substitution Property of Equality)
$VW = YX$ (Transitive Property of Segment Congruence)
$\overline{VW} \cong \overline{YX}$ (Def. of $\cong$)

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