Quiz 4.4: Proving Properties of Parallel Lines Cut by a Transversal

Multiple Choice: *Choose the letter that corresponds to the correct answer. Write the answer in your answer sheet.*

1. "If two parallel lines are cut by a transversal, then the alternate interior angles are congruent." This is stated in:

   A. Alternate Interior Angles theorem
   C. Consecutive Exterior Angles theorem
   B. Consecutive Interior Angles theorem
   D. Corresponding Angles Postulate

2. Which theorem states that if two parallel lines are cut by a transversal, then the same-side exterior angles are supplementary?

   A. Alternate Interior Angles theorem
   C. Consecutive Exterior Angles theorem
   B. Consecutive Interior Angles theorem
   D. Corresponding Angles Postulate

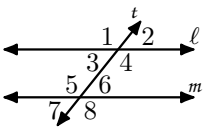
3. "If two parallel lines are cut by a transversal, then the corresponding angles are congruent." This is stated in:

   A. Alternate Interior Angles theorem
   C. Consecutive Exterior Angles theorem
   B. Consecutive Interior Angles theorem
   D. Corresponding Angles Postulate

4. Which theorem states that if two parallel lines are cut by a transversal, then the same-side interior angles are supplementary?

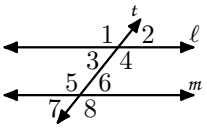
   A. Alternate Interior Angles theorem
   C. Consecutive Exterior Angles theorem
   B. Consecutive Interior Angles theorem
   D. Corresponding Angles Postulate

5. Given: t is a transversal and $\ell \parallel m$, which reason makes the statement $\angle 1 \cong \angle 5$ true?



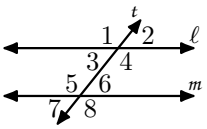
   A. Given
   C. Transitive Property
   B. Corresponding Angles postulate
   D. Vertical Angles theorem

6. Based on the figure, which reason makes the statement $\angle 7 \cong \angle 6$ true?



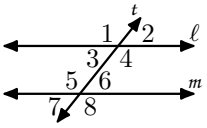
   A. Given
   C. Transitive Property
   B. Corresponding Angles postulate
   D. Vertical Angles theorem

7. Given: t is a transversal and $\ell \parallel m$, which reason makes the statement $\angle 3 \cong \angle 7$ true?



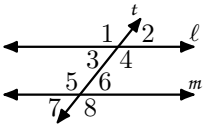
   A. Given
   C. Transitive Property
   B. Corresponding Angles postulate
   D. Vertical Angles theorem

8. Based on the figure, if $\angle 3 \cong \angle 7$ and $\angle 7 \cong \angle 6$, then $\angle 3 \cong \angle 6$. Which reason makes this statement true?



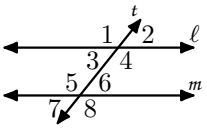
   A. Given
   C. Transitive Property
   B. Corresponding Angles postulate
   D. Vertical Angles theorem

9. Based on the figure, $\angle 7$ and $\angle 5$ form a linear pair. How do we know this is true?



   A. Corresponding Angles postulate
   C. Law of Substitution
   B. Definition of Linear Pair
   D. Linear Pair Postulate

10. Based on the figure, $\angle 7$ and $\angle 5$ are supplementary angles. How do we know this is true?



   A. Corresponding Angles postulate
   C. Law of Substitution
   B. Definition of Linear Pair
   D. Linear Pair Postulate

Answer Key

1. "If two parallel lines are cut by a transversal, then the alternate interior angles are congruent." This is stated in:

   Solution:

   A. Alternate Interior Angles theorem
   C. Consecutive Exterior Angles theorem
   B. Consecutive Interior Angles theorem
   D. Corresponding Angles Postulate

2. Which theorem states that if two parallel lines are cut by a transversal, then the same-side exterior angles are supplementary?

   Solution:

   A. Alternate Interior Angles theorem
   C. Consecutive Exterior Angles theorem
   B. Consecutive Interior Angles theorem
   D. Corresponding Angles Postulate

3. "If two parallel lines are cut by a transversal, then the corresponding angles are congruent." This is stated in:

   Solution:

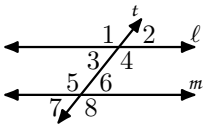
   A. Alternate Interior Angles theorem
   C. Consecutive Exterior Angles theorem
   B. Consecutive Interior Angles theorem
   D. Corresponding Angles Postulate

4. Which theorem states that if two parallel lines are cut by a transversal, then the same-side interior angles are supplementary?

   Solution:

   A. Alternate Interior Angles theorem
   C. Consecutive Exterior Angles theorem
   B. Consecutive Interior Angles theorem
   D. Corresponding Angles Postulate

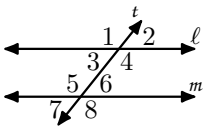
5. Given: t is a transversal and $\ell \parallel m$, which reason makes the statement $\angle 1 \cong \angle 5$ true?



   Solution:

   A. Given
   C. Transitive Property
   B. Corresponding Angles postulate
   D. Vertical Angles theorem

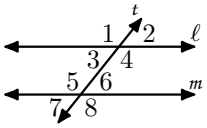
6. Based on the figure, which reason makes the statement $\angle 7 \cong \angle 6$ true?



   Solution:

   A. Given
   C. Transitive Property
   B. Corresponding Angles postulate
   D. Vertical Angles theorem

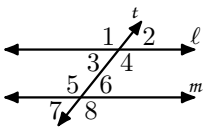
7. Given: t is a transversal and $\ell \parallel m$, which reason makes the statement $\angle 3 \cong \angle 7$ true?



   Solution:

   A. Given
   C. Transitive Property
   B. Corresponding Angles postulate
   D. Vertical Angles theorem

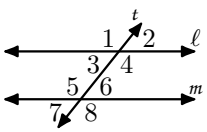
8. Based on the figure, if $\angle 3 \cong \angle 7$ and $\angle 7 \cong \angle 6$, then $\angle 3 \cong \angle 6$. Which reason makes this statement true?



   Solution:

   A. Given
   C. Transitive Property
   B. Corresponding Angles postulate
   D. Vertical Angles theorem

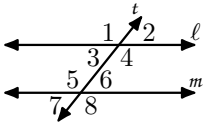
9. Based on the figure, $\angle 7$ and $\angle 5$ form a linear pair. How do we know this is true?



   Solution:

   A. Corresponding Angles postulate
   C. Law of Substitution
   B. Definition of Linear Pair
   D. Linear Pair Postulate

10. Based on the figure, $\angle 7$ and $\angle 5$ are supplementary angles. How do we know this is true?



Solution:

A. Corresponding Angles postulate

B. Definition of Linear Pair

C. Law of Substitution

D. Linear Pair Postulate