Lesson 4.4 • Are There Congruence Shortcuts?

Name ___________________________ Period ___________ Date ___________

In Exercises 1–3, name the conjecture that leads to each congruence.

1. $\triangle P A T \cong \triangle I M T$

2. $\triangle S I D \cong \triangle I A N$

3. $TS$ bisects $MA$, $MT \cong AT$, and $\triangle M S T \cong \triangle A S T$

In Exercises 4–9, name a triangle congruent to the given triangle and state the congruence conjecture. If you cannot show any triangles to be congruent from the information given, write “cannot be determined” and redraw the triangles so that they are clearly not congruent.

4. $M$ is the midpoint of $AB$ and $PQ$.
   $\triangle APM \cong \triangle BQM$

5. $\text{KITE}$ is a kite with $KI = TI$.
   $\triangle K I E \cong \triangle T I E$

6. $\triangle A B C \cong \triangle \text{Cannot be determined}$

7. $\triangle M O N \cong \triangle T I N$

8. $\triangle S Q R \cong \triangle \text{Cannot be determined}$

9. $\triangle T O P \cong \triangle \text{DOG}$

In Exercises 10–12, use a compass and a straightedge or patty paper and a straightedge to construct a triangle with the given parts. Then, if possible, construct a different (noncongruent) triangle with the same parts. If it is not possible, explain why not.

10. $\text{S} \rightarrow \text{T}$
    $\text{T} \rightarrow \text{U}$
    $\text{U} \rightarrow \text{S}$

11. $\text{Construction}
    \text{on separate paper}$

12. $\text{Y} \rightarrow \text{X}$
    $\text{X} \rightarrow \text{Z}$

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