Lesson 4.3 Practice: Proving Triangles Congruent: SSS and SAS

School Launch · Geometry · Unit 4: Triangles and Congruence · Worksheet A

Calculator allowed

Name _____ Date _____ Score _____ / 10

Show your work under each problem, one step per line, and check your answer. Word problems: name the unknown, write the equation, solve, and answer in a sentence with units.

1. Which congruence criterion (SSS, SAS, ASA, AAS, HL) applies, if any? (1) two sides and a non-included angle congruent (SSA); (2) right triangles with hypotenuse and one leg congruent. EASY

2. $\triangle ABC \cong \triangle DEF$. $AB = 5x + 3$ and $DE = x + 15$. Find x and AB. EASY

3. Which congruence criterion (SSS, SAS, ASA, AAS, HL) applies, if any? (1) two angles and the included side congruent; (2) three pairs of sides congruent. EASY

4. $\triangle ABC \cong \triangle DEF$. $AB = 2x + 2$ and $DE = x + 12$. Find x and AB. MEDIUM

5. Which congruence criterion (SSS, SAS, ASA, AAS, HL) applies, if any? (1) two angles and a non-included side congruent; (2) right triangles with hypotenuse and one leg congruent; (3) two sides and the included angle congruent. MEDIUM

6. $\triangle ABC \cong \triangle DEF$. $AB = 5x + 8$ and $DE = 3x + 32$. Find x and AB. MEDIUM

7. Which congruence criterion (SSS, SAS, ASA, AAS, HL) applies, if any? (1) three pairs of angles congruent (AAA); (2) two sides and the included angle congruent; (3) right triangles with hypotenuse and one leg congruent. MEDIUM

8. $\triangle ABC \cong \triangle DEF$. $AB = 4x + 3$ and $DE = 5x - 6$. Find x and AB. HARD

9. Which congruence criterion (SSS, SAS, ASA, AAS, HL) applies, if any? (1) three pairs of angles congruent (AAA); (2) two angles and a non-included side congruent; (3) two sides and a non-included angle congruent (SSA); (4) three pairs of sides congruent. HARD

10. $\triangle ABC \cong \triangle DEF$. $AB = 5x + 7$ and $DE = 2x + 40$. Find x and AB. HARD