**Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Unit 4A Test Review

**Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Block\_\_\_\_**

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| **Skill Set 1:** | The student will classify triangles by sides and angles & apply the triangle sum & exterior-theorems in  real world situations. | | | | | | | | | |
| **1-7: True or False?** *Do you know the triangle properties, the types of triangles, and the theorems about angles?* | | | | | | | | | | |
| \_\_\_\_\_\_\_\_\_\_\_**1.** An equilateral triangle can be isosceles.  \_\_\_\_\_\_\_\_\_\_\_**2.**  Some triangles have 2 right angles.  \_\_\_\_\_\_\_\_\_\_\_**3.** If 2 angles of one triangle are complementary, then the triangle is a right triangle.  \_\_\_\_\_\_\_\_\_\_\_**4.** An isosceles triangle is equilateral.  \_\_\_\_\_\_\_\_\_\_\_**5.** If each angle of a triangle is less than 90°, then the triangle is acute.  \_\_\_\_\_\_\_\_\_\_\_**6.** A triangle that has 3 angles congruent to 3 angles of another triangle will always be congruent.  \_\_\_\_\_\_\_\_\_\_\_**7.** An exterior angle of an equilateral triangle is 120°. | | | | | | | | | | |
| **8-11: Draw the following triangles.** *Do you know the types of triangles and what they look like?* | | | | | | | | | | |
| **8.** An isosceles right Δ | | **9.** An obtuse scalene Δ  B  C  A | | | | | **10.** An acute scalene Δ | | | **11.** An equiangular Δ |
| **12-16: Given isosceles ΔABC, fill in each blank below.** | | | | | | | **17-21: Given right** **ΔRST, fill in each blank below.** | | | |
| **12.** The legs are \_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_.  **13.** The base is \_\_\_\_\_\_\_\_.  **14.** The vertex angle is \_\_\_\_\_\_\_\_.  **15.** The base angles are \_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_.  **16.** The congruent angles are \_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_. | | | | | | | R  S  T  **17.** The legs are \_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_.  **18.** The hypotenuse is \_\_\_\_\_\_\_\_.  **19.** The side opposite ∠R is \_\_\_\_\_\_\_\_.  **20.** The angle opposite is \_\_\_\_\_\_\_\_.  **21.** The included side between ∠R & ∠S is \_\_\_\_\_\_\_\_. | | | |
| **Skill Set 2:** | The students will use CPCTC to find missing sides and angles of congruent triangles. | | | | | | | | | |
| **22-29: If ΔLMN ≅ ΔQRS, then find all corresponding parts or measures.** *Do you know that CPCTC?*  *Note: = means to give a numeric answer and ≅ means to name a part that is corresponding to the given part.* | | | | | | | | | | |
| N  M  350  23 cm  R  Q  S  9 cm  850  L  **22.** ∠R ≅ \_\_\_\_\_\_\_\_ **26.**  ≅ \_\_\_\_\_\_\_\_\_  **23.**  ≅ \_\_\_\_\_\_\_\_ **27.** ΔMNL ≅ \_\_\_\_\_\_\_\_  **24.** m∠L = \_\_\_\_\_\_\_\_ **28.** m∠M = \_\_\_\_\_\_\_\_  **25.** m∠S = \_\_\_\_\_\_\_\_ **29.** ΔSRQ ≅ \_\_\_\_\_\_\_\_ | | | | | | | | | | |
| **30-41: Find the unknown values in each triangle. SHOW WORK on EQUATIONS!** *Do you know the angle sum of a triangle? Do you know what angles add up to equal the exterior angle? Do you know the properties of the isosceles and equilateral triangles? Do you know how to write an equation based on your knowledge and solve for x?* | | | | | | | | | | |
| **30.**  m∠1 = \_\_\_\_\_\_\_  m∠2 = \_\_\_\_\_\_\_ | | | | | **31.**    m∠1 = \_\_\_\_\_\_\_  m∠2 = \_\_\_\_\_\_\_  m∠3 = \_\_\_\_\_\_\_ | | | | **32.**    x = \_\_\_\_\_\_\_ | |
| **33.**      x = \_\_\_\_\_\_\_ | | | | | **34.** ΔABC is equilateral  x = \_\_\_\_\_\_\_ | | | | **35.**  x = \_\_\_\_\_\_\_ | |
| **36.**  78°  3x°  y°  x = \_\_\_\_\_\_\_  y = \_\_\_\_\_\_\_ | | | | | **37.**  80 0  2x°  40°  x = \_\_\_\_\_\_\_ | | | | **38.**    m∠1 = \_\_\_\_\_\_\_  m∠2 = \_\_\_\_\_\_\_  m∠3 = \_\_\_\_\_\_\_ | |
| **39.**  x = \_\_\_\_\_\_\_ | | | | | **40.**    x = \_\_\_\_\_\_\_ | | | | **41.**  x = \_\_\_\_\_\_\_ | |
| **Skill Set 3:** | Students will prove that triangles are congruent using the following methods: SSS,SAS,ASA,AAS, or HL | | | | | | | | | |
| **42-46: Draw a detailed picture for each of the following triangle relationships. 47: Answer the question.** | | | | | | | | | | |
| **42.** Draw a picture of 2 triangles  congruent by SSS. | | | | **43.** Draw a picture of 2 triangles  congruent by SAS. | | | | | **44.** Draw a picture of 2 triangles  congruent by ASA. | |
| **45.** Draw a picture of 2 triangles  congruent by AAS. | | | | **46.** Draw a picture of 2 triangles  congruent by the HL Theorem | | | | | **47.** What does CPCTC mean? | |
| **48-53: Mark the triangles, make a congruency statement, and state why the triangles are congruent.**  *Do you know what to mark congruent on triangles and what makes them congruent by SSS, SAS, ASA, AAS, and HL?* | | | | | | | | | | |
| **48.**  D  A  B  C  E  ΔABC ≅ Δ\_\_\_\_\_\_\_ by \_\_\_\_\_\_\_\_\_ | | | **49.**    ΔDEF ≅ Δ\_\_\_\_\_\_\_ by \_\_\_\_\_\_\_\_\_  D  A  B  C | | | | | **50.**  ΔDYN ≅ Δ\_\_\_\_\_\_\_ by \_\_\_\_\_\_\_\_\_ | | |
| **51.** C is the midpoint of  ΔABC ≅ Δ\_\_\_\_\_\_\_ by \_\_\_\_\_\_\_\_\_ | | | **52.**  ΔABC Δ\_\_\_\_\_\_\_ by \_\_\_\_\_\_\_\_\_ | | | | | **53.**  ΔHMN ≅ Δ\_\_\_\_\_\_\_ by \_\_\_\_\_\_\_\_ | | |
| **54-56: Mark the two triangles to determine congruency. Circle ≅ by ­\_\_\_\_\_ (give a reason) or Not ≅.** | | | | | | | | | | |
| **54.**    ≅ by \_\_\_\_\_\_\_\_\_ Not ≅ | | | **55.**  ≅ by \_\_\_\_\_\_\_\_\_ Not ≅ | | | | | **56.** *Hint: Separate the overlapping triangles!*  ≅ by \_\_\_\_\_\_\_\_\_ Not ≅ | | |
| **57-59: Complete each proof with the correct statements & reasons.** *Do you know how to prove triangles congruent by marking the picture, planning, and then writing the statements and reasons to justify your plan?* | | | | | | | | | | |
| **57. Given:** ⏐⏐  S is the midpoint of  **Prove:** ΔQSR ≅ ΔTSU  R  U  S  Q  T | | | | | | **Statements:** | | | **Reasons:** | |
| 1. ⏐⏐   S is the midpoint of | | |  | |
| **2.** ∠Q ≅ ∠T | | |  | |
| **3.** | | | 1. Definition of a Midpoint | |
| **4.** | | | 1. Vertical angles are congruent | |
| **5.** ΔQSR ≅ ΔTSU | | |  | |
|  | | | | | | | | | | |
| **58. Given:** ∠D ≅ ∠F, bisects ∠DEF  **Prove:** ΔDEG ≅ ΔFEG  D  G  F  E | | | | | | 1. bisects ∠DEF | | |  | |
|  | | | 1. Definition of an angle bisector | |
| 1. ∠D ≅ ∠F | | |  | |
|  | | | 1. Reflexive Property of Congruency | |
| 1. ΔDEG ≅ ΔFEG | | |  | |
|  | | | | | | | | | | |
| 1. **Given:** **,**  bisects ∠BCD   **Prove:** ΔABC ≅ ΔADC  D  A  C  B | | | | | | 1. bisects ∠BCD | | |  | |
|  | | | 1. Given | |
| 1. ∠BCA ≅ ∠DCA | | |  | |
|  | | | 1. Reflexive Property of Congruency | |
| 1. ΔABC ≅ ΔADC | | |  | |