Math-U-See

Student _____

# Record Keeping: *Geometry*

| | Date | Test Score | Proficiency |
|---|---|---|---|
| *Pretest (Unit Test I)* | | | |

| | | LESSON PRACTICE | | TEACH BACK | SYSTEMATIC REVIEW | | | H | Lesson Test | Test Date |
|---|---|---|---|---|---|---|---|---|---|---|
| | | A | B | | C | D | E | | | |
| **1** | Points, Lines, Rays, and Line Segments | | | | | | | | | |
| **2** | Planes and Sets | | | | | | | | | |
| **3** | Angles | | | | | | | | | |
| **4** | Types of Angles | | | | | | | | | |
| **5** | Parallel and Perpendicular Lines | | | | | | | | | |
| **6** | Supplementary and Complementary Angles | | | | | | | | | |
| **7** | Transversals | | | | | | | | | |
| **8** | Perimeter; Interior Angles | | | | | | | | | |
| **9** | Area | | | | | | | | | |
| **10** | Constructing and Identifying Triangles | | | | | | | | | |

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|---|---|---|---|
| *Posttest (Unit Test I)* | | | |

## LESSON OBJECTIVES

**Lesson 1 Points, Lines, Rays, and Line Segments**

- ☐ GE.1.a Describe a point, line, ray, line segment, and plane
- ☐ GE.1.b Identify points, lines, rays, segments, and planes
- ☐ GE.1.c Identify symbols associated with points, lines, rays, segments, and planes
- ☐ GE.1.d Define the terms equal, similar, congruent, collinear, endpoint, and geometry
- ☐ GE.1.e Draw and label a line segment, ray, line, and plane

**Lesson 2 Planes and Sets**

- ☐ GE.2.a Define the terms coplanar, plane geometry, and solid geometry
- ☐ GE.2.b Define a set, intersection, union, empty or null set, proper subset, improper subset, element, complement, n(A), and universal set
- ☐ GE.2.c Identify the symbols for set, intersection, union, empty or null set, proper subset, improper subset, element, not an element, complement, n(A), and universal set

**Lesson 3 Angles**

- ☐ GE.3.a Define angle, protractor, degree, and vertex
- ☐ GE.3.b Measure given angles with a protractor
- ☐ GE.3.c Draw angles of a given measure
- ☐ GE.3.d Identify angles using Greek letters, 3-letter names, and 1-letter names
- ☐ GE.3.e Differentiate between ∠ and m∠

**Lesson 4 Types of Angles**

- ☐ GE.4.a Classify angles as acute, obtuse, straight, or reflex
- ☐ GE.4.b Identify and explain the meaning of the right angle indicator

**Lesson 5 Parallel and Perpendicular Lines**

- ☐ GE.5.a Define the terms parallel, perpendicular, bisector, midpoint, and bisect
- ☐ GE.5.b Identify the symbols for parallel and perpendicular
- ☐ GE.5.c Construct the perpendicular bisector of a line segment
- ☐ GE.5.d Construct the bisector of an angle

**Proficiency Guide: A** (Advanced) 90–100% **P** (Proficient) 80–89% **NP** (Nearing Proficiency) 70–79% **BS** (Beginning Steps) Below 70%

| | | |
|---|---|---|
| | **Lesson 6** | **Supplementary and Complementary Angles** |
| ☐ | GE.6.a | Identify and write Greek letters alpha, beta, gamma, and delta |
| ☐ | GE.6.b | Describe and identify adjacent angles, vertical angles, supplementary angles, and complementary angles |
| | **Lesson 7** | **Transversals** |
| ☐ | GE.7.a | Describe transversal, interior angles, exterior angles, corresponding angles, alternate angles, alternate exterior angles, and alternate interior angles |
| ☐ | GE.7.b | Identify congruent pairs of angles formed by a set of parallel lines and a transversal |
| ☐ | GE.7.c | Describe a postulate and converse |
| | **Lesson 8** | **Perimeter; Interior Angles** |
| ☐ | GE.8.a | Describe perimeter, quadrilateral, rectangle, parallelogram, rhombus, trapezoid, square, and interior angle |
| ☐ | GE.8.b | State the number of degrees in the interior angles of a triangle and a quadrilateral |
| | **Lesson 9** | **Area** |
| ☐ | GE.9.a | Define the terms area, height, and base |
| ☐ | GE.9.b | Find the area of a rectangle, parallelogram, triangle, square, and trapezoid |
| | **Lesson 10** | **Constructing and Identifying Triangles** |
| ☐ | GE.10.a | Define the terms equilateral, equiangular, isosceles, and scalene |
| ☐ | GE.10.b | Define the terms obtuse, right, and acute as they relate to triangles |
| ☐ | GE.10.c | Explain why the sum of the lengths of the shorter two sides of a triangle must be greater than the length of the longest side of the triangle |
| ☐ | GE.10.d | Demonstrate the use of hash marks to show congruent line segments or congruent angles |

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# Record Keeping: *Geometry*

| | Date | Test Score | Proficiency |
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| *Pretest (Unit Test II)* | | | |

| | | LESSON PRACTICE | | TEACH BACK | SYSTEMATIC REVIEW | | | H | Lesson Test | Test Date |
|---|---|---|---|---|---|---|---|---|---|---|
| | | A | B | | C | D | E | | | |
| **11** | Regular Polygons | | | | | | | | | |
| **12** | Geometry of a Circle, Sphere, and Ellipse | | | | | | | | | |
| **13** | Area of a Circle and an Ellipse | | | | | | | | | |
| **14** | Volume: Rectangular Solid and Cylinder | | | | | | | | | |
| **15** | Volume: Pyramid, Cone, Prism, and Sphere | | | | | | | | | |
| **16** | Surface Area of Solids | | | | | | | | | |
| **17** | Radicals | | | | | | | | | |
| **18** | Pythagorean Theorem | | | | | | | | | |
| **19** | More on Radicals | | | | | | | | | |

| | Date | Test Score | Proficiency |
|---|---|---|---|
| *Posttest (Unit Test II)* | | | |

## LESSON OBJECTIVES

**Lesson 11 Regular Polygons**

- ☐ GE.11.a Define the terms polygon, concave polygon, convex polygon, regular polygon, pentagon, hexagon, octagon, decagon, dodecagon, interior angle, and exterior angle
- ☐ GE.11.b Calculate the sum of the measures of the interior angles of a polygon
- ☐ GE.11.c State the measure of one interior angle of a regular polygon
- ☐ GE.11.d State that the sum of the measures of the exterior angles of a polygon is 360 degrees

**Lesson 12 Geometry of a Circle, Sphere, and Ellipse**

- ☐ GE.12.a Define the terms circle, center, chord, radius, diameter, tangent, secant, sector, arc, sphere, ellipse, central angle, minor arc, major arc, intercepted arc, and inscribed angle
- ☐ GE.12.b State the relationship between the measures of a central and an inscribed angle in a circle

**Lesson 13 Area of a Circle and an Ellipse**

- ☐ GE.13.a State the formula for the area of a circle
- ☐ GE.13.b Find the area of a circle

**Lesson 14 Volume: Rectangular Solid and Cylinder**

- ☐ GE.14.a Define the terms face, edge, and vertex as they relate to solid shapes
- ☐ GE.14.b Define the terms cube and cylinder
- ☐ GE.14.c Find the volume of a rectangular solid
- ☐ GE.14.d Find the volume of a cylinder

**Lesson 15 Volume: Pyramid, Cone, Prism, and Sphere**

- ☐ GE.15.a Define the terms altitude and slant height
- ☐ GE.15.b Define the terms pyramid, cone, triangular prism, and sphere
- ☐ GE.15.c Find the volume of a pyramid
- ☐ GE.15.d Find the volume of a cone
- ☐ GE.15.e Find the volume of a triangular prism
- ☐ GE.15.f Find the volume of a sphere

**Lesson 16 Surface Area of Solids**

- ☐ GE.16.a Find the surface area of any rectangular solid
- ☐ GE.16.b Find the surface area of a pyramid
- ☐ GE.16.c Find the surface area of a cylinder

**Proficiency Guide: A** (Advanced) 90–100% **P** (Proficient) 80–89% **NP** (Nearing Proficiency) 70–79% **BS** (Beginning Steps) Below 70%

| | | |
|---|---|---|
| | **Lesson 17** | **Radicals** |
| ☐ | GE.17.a | Define the term radical |
| ☐ | GE.17.b | Perform addition and subtraction operations with terms containing radicals |
| ☐ | GE.17.c | Perform multiplication and division operations with terms containing radicals |
| ☐ | GE.17.d | Simplify radical expressions by removing all square factors from under the radical sign |
| ☐ | GE.17.e | Find decimal approximations of irrational roots using a calculator |
| | **Lesson 18** | **Pythagorean Theorem** |
| ☐ | GE.18.a | Define the terms leg and hypotenuse in reference to a right triangle |
| ☐ | GE.18.b | State the Pythagorean theorem |
| ☐ | GE.18.c | Use the Pythagorean theorem to find the missing side of a right triangle when two sides are given |
| ☐ | GE.18.d | State the converse of the Pythagorean theorem |
| ☐ | GE.18.e | Determine if a triangle is right when given the lengths of the three sides |
| | **Lesson 19** | **More on Radicals** |
| ☐ | GE.19.a | Rationalize the denominator of a fraction (one-term denominator) |

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# Record Keeping: *Geometry*

| | Date | Test Score | Proficiency |
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| *Pretest (Unit Test III)* | | | |

| | | LESSON PRACTICE | | TEACH BACK | SYSTEMATIC REVIEW | | | H | Lesson Test | Test Date |
|---|---|---|---|---|---|---|---|---|---|---|
| | | A | B | | C | D | E | | | |
| **20** | Special Triangles: 45°-45°-90° | | | | | | | | | |
| **21** | Special Triangles: 30°-60°-90° | | | | | | | | | |
| **22** | Axioms, Postulates, and Theorems | | | | | | | | | |
| **23** | Corresponding Parts of Triangles | | | | | | | | | |
| **24** | Proving Triangles Congruent: SSS and SAS | | | | | | | | | |
| **25** | Proving Triangles Congruent: ASA and AAS | | | | | | | | | |
| **26** | Proving Right Triangles Congruent | | | | | | | | | |
| **27** | Proving Triangles Similar with AA | | | | | | | | | |
| **28** | Transformational Geometry | | | | | | | | | |
| **29** | Trigonometric Functions | | | | | | | | | |
| **30** | Reciprocal Trigonometric Functions | | | | | | | | | |

| | Date | Test Score | Proficiency |
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| *Posttest (Unit Test III)* | | | |

## LESSON OBJECTIVES

**Lesson 20 Special Triangles: 45°-45°-90°**

- ☐ GE.20.a State the proportional relationship between one leg and the hypotenuse on a 45°-45°-90° triangle
- ☐ GE.20.b State the proportional relationship between one leg of a 45°-45°-90° triangle and the other leg
- ☐ GE.20.c State the lengths of the remaining sides of a 45°-45°-90° triangle when given the length of one side
- ☐ GE.20.d Determine whether a triangle has angle measures of 45°-45°-90° based on the side lengths

**Lesson 21 Special Triangles: 30°-60°-90°**

- ☐ GE.21.a State the proportional relationships among the three sides of a 30°-60°-90° triangle
- ☐ GE.21.b Find the length of any side of a 30°-60°-90° triangle given any other side
- ☐ GE.21.c Determine whether a triangle has angle measures of 30°-60°-90° based on the side lengths

**Lesson 22 Axioms, Postulates, and Theorems**

- ☐ GE.22.a State the Property of Symmetry: if A = B, then B = A
- ☐ GE.22.b State the Reflexive Property: A = A
- ☐ GE.22.c State the Transitive Property: if A = B and B = C, then A = C
- ☐ GE.22.d Define the terms axiom, postulate, and theorem

**Proficiency Guide: A** (Advanced) 90–100% **P** (Proficient) 80–89% **NP** (Nearing Proficiency) 70–79% **BS** (Beginning Steps) Below 70%

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# Record Keeping: *Geometry*

**Lesson 23 Corresponding Parts of Triangles**

- ☐ GE.23.a Identify corresponding parts of a pair of congruent or similar triangles
- ☐ GE.23.b Define the term remote interior angle

**Lesson 24 Proving Triangles Congruent: SSS and SAS**

- ☐ GE.24.a Prove a pair of triangles congruent using SSS
- ☐ GE.24.b Prove a pair of triangles congruent using SAS

**Lesson 25 Proving Triangles Congruent: ASA and AAS**

- ☐ GE.25.a Prove a pair of triangles congruent using ASA
- ☐ GE.25.b Prove a pair of triangles congruent using AAS
- ☐ GE.25.c Describe CPCTRC
- ☐ GE.25.d Identify corresponding parts of congruent triangles
- ☐ GE.25.e State the amplified parallelogram theorem
- ☐ GE.25.f Apply the amplified parallelogram theorem

**Lesson 26 Proving Right Triangles Congruent**

- ☐ GE.26.a Prove two right triangles congruent by HL
- ☐ GE.26.b Prove two right triangles congruent by HA
- ☐ GE.26.c Prove two right triangles congruent by LA
- ☐ GE.26.d Prove two right triangles congruent by LL

**Lesson 27 Proving Triangles Similar with AA**

- ☐ GE.27.a Define the term similar
- ☐ GE.27.b Define the AA postulate
- ☐ GE.27.c Prove two triangles similar using the AA postulate
- ☐ GE.27.d State the ratio of corresponding sides in pairs of similar polygons
- ☐ GE.27.e Find the lengths of missing sides in pairs of simliar polygons when the ratio of corresponding sides is known

**Lesson 28 Transformational Geometry**

- ☐ GE.28.a Translate a graph horizontally and/or vertically using integer movements
- ☐ GE.28.b Reflect a graph across the *x*- or *y*-axis
- ☐ GE.28.c Reflect a graph across horizontal and vertical lines that are not axes
- ☐ GE.28.d Rotate a graph about the origin
- ☐ GE.28.e Rotate a graph about a point other than the origin
- ☐ GE.28.f Dilate a graph about its center
- ☐ GE.28.g Combine two or more transformations of one graph
- ☐ GE.28.h Describe a transformation, given a before and an after graph

**Lesson 29 Trigonometric Functions**

- ☐ GE.29.a Define the terms adjacent and opposite
- ☐ GE.29.b Define the trigonometric ratios sine, cosine, and tangent
- ☐ GE.29.c Give sine, cosine, and tangents of angles in triangles with given side lengths

**Lesson 30 Reciprocal Trigonometric Functions**

- ☐ GE.30.a Define the trigonometric ratios secant, cosecant, and cotangent
- ☐ GE.30.b State the secant, cosecant, and tangent in triangles with given side lengths
- ☐ GE.30.c State the Pythagorean identity