***MYP Honors Intermediate Algebra/Geometry***

 ***Learning Goals and Scales: Geometry Tools Unit***

**Scale for Big Idea: Angle Relationships**

 **Criterion A**: Knowing and Understanding Year 4 & 5 Rubric **Maximum: 8**

Students should be able to:

1. **select** appropriate mathematics when solving problems
2. **apply** the selected mathematicals successfully when solving problems
3. **solve** problems correctly in both familiar and unfamiliar situations in a variety of contexts.

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| Achievement Level | ProficiencyLevel | Level Descriptor | Task Specific Description |
| 7-8 | Score Advanced | The student is able to:i. **select** appropriate mathematics when solving challenging problems in both familiar and unfamiliar situationsii. **apply** the selected mathematics successfully when solving these problemsiii. generally **solve** these problems correctly. | * Can use angle relationships to determine what is wrong with a figure.
* Solve problems involving multiple angle relationships
* Can prove something about a figure using angle relationships
 |
| 5-6 | Strong | The student is able to:i. **select** appropriate mathematics when solving challenging problems in familiar situationsii. **apply** the selected mathematics successfully when solving these problemsiii. generally **solve** these problems correctly. | * Can solve problems involving congruent and/or supplementary angles associated with parallel lines, including those with angle measures written as algebraic expressions.
* Can solve problems involving the sum of the measures of the angles of a triangle, including those with angle measures written as algebraic expressions.
* Can solve problems involving the side or angle measures of an isosceles triangle, including those with angle measures written as algebraic expressions.
* Can solve problems involving the sum of the measures of the angles of a polygon, including those with angle measures written as algebraic expressions.
* Can identify and use parallel lines cut by a transversal when embedded in a complex figure.
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| 3-4 | Getting There | The student is able to:i. **select** appropriate mathematics when solving more complex problems in familiar situationsii. **apply** the selected mathematics successfully when solving these problemsiii. generally **solve** these problems correctly. | * Can solve problems involving the sum of the measures of the angles of a triangle.
* Can recognize angle relationships but not yet able to solve problems using these properties.
* Can solve problems given the tool or angle relationship
 |
| 1-2 | Not Yet | The student is able to:i. **select** appropriate mathematics when solving simple problems in familiar situationsii. **apply** the selected mathematics sometimes when solving iii. generally **solve** these problems correctly. | With help, partial success at score 3-4 and score 5-6 content |
| Score 0.0 | Score 0.0 | The student does not reach a standard indicated by any of the standards below. | Even with help, no success |

**Scale for Big Idea: Utilizing tools of coordinate geometry**

 **Criterion A**: Knowing and Understanding Year 4 & 5 Rubric **Maximum: 8**

Students should be able to:

1. **select** appropriate mathematics when solving problems
2. **apply** the selected mathematicals successfully when solving problems
3. **solve** problems correctly in both familiar and unfamiliar situations in a variety of contexts.

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| Achievement Level | ProficiencyLevel | Level Descriptor | Task Specific Description |
| 7-8 | Score Advanced | The student is able to:i. **select** appropriate mathematics when solving challenging problems in both familiar and unfamiliar situationsii. **apply** the selected mathematics successfully when solving these problemsiii. generally **solve** these problems correctly. | * Can utilize the tools of geometry in a novel situation, such as given endpoint coordinates in variable form, can find the slope, midpoint, and/or length of the segment.
* Can complete a generic case coordinate geometry proof using triangles
 |
| 5-6 | Strong | The student is able to:i. **select** appropriate mathematics when solving challenging problems in familiar situationsii. **apply** the selected mathematics successfully when solving these problemsiii. generally **solve** these problems correctly. | * Can use tools of slope, midpoint, and length
* Can find the equation of “special lines.” For example, can find the equation of the median of a triangle or the perpendicular bisector of a line segment.
* Can complete a specific case coordinate geometry proof using triangles
 |
| 3-4 | Getting There | The student is able to:i. **select** appropriate mathematics when solving more complex problems in familiar situationsii. **apply** the selected mathematics successfully when solving these problemsiii. generally **solve** these problems correctly. | * Given a graph, equation, or table, students can identify the slope.
* Can identify parallel and perpendicular lines from their slopes.
* Understands when to apply a process for finding midpoints or length, but cannot fully follow through on the processes.
 |
| 1-2 | Not Yet | The student is able to:i. **select** appropriate mathematics when solving simple problems in familiar situationsii. **apply** the selected mathematics sometimes when solving iii. generally **solve** these problems correctly. | With help, partial success at score 3-4 and score 5-6 content |
| Score 0.0 | Score 0.0 | The student does not reach a standard indicated by any of the standards below. | Even with help, no success |

**Scale for Big Idea: Congruence**

**Criterion A**: Knowing and Understanding Year 5 Rubric **Maximum: 8**

Students should be able to:

1. **select** appropriate mathematics when solving problems
2. **apply** the selected mathematicals successfully when solving problems
3. **solve** problems correctly in both familiar and unfamiliar situations in a variety of contexts.

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| Achievement Level | ProficiencyLevel | Level Descriptor | Task Specific Description |
| 7-8 | Score Advanced | The student is able to:i. **select** appropriate mathematics whensolving challenging problems in both familiar and unfamiliar situationsii. **apply** the selected mathematics successfully when solving these problemsiii. generally **solve** these problems correctly. | * Can use congruence conjectures to prove properties of other figures
* Can prove/articulate why SSA and AA don’t work as congruence conjectures Be able to show evidence of proficiency from the other bands in the rubric.
 |
| 5-6 | Strong | The student is able to:i. **select** appropriate mathematics when solving challenging problems in familiar situationsii. **apply** the selected mathematics successfully when solving these problemsiii. generally **solve** these problems correctly. | * Can determine reason why figures are congruent (i.e. congruence conjectures)
* Can use congruence conjectures to solve a problems (possibly via cpctc, or algebraic problem with expression in figures)
* Can decide whether triangles are congruent or not( knows when AAA or SSA make it impossible to determine congruency)
 |
| 3-4 | Getting There | The student is able to:i. **select** appropriate mathematics when solving more complex problems in familiar situationsii. **apply** the selected mathematics successfully when solving these problemsiii. **generally** solve these problems correctly. | * Can complete a congruence statement accurately
* Can determine why figures are congruent given all of the information
* Can use congruence statement to determine congruent parts
* Reasoning is only partially correct (or correct in only part of the problem)
 |
| 1-2 | Not Yet | The student is able to:i. **select** appropriate mathematics when solving simple problems in familiar situationsii. **apply** the selected mathematics sometimes when solving iii. generally **solve** these problems correctly. | With help, partial success at score 3-4 and score 5-6 content |
| Score 0.0 | Score 0.0 | The student does not reach a standard indicated by any of the standards below. | Even with help, no success |

**Scale for Big Idea: Problem solving**

**Criterion A**: Knowing and Understanding Year 5 Rubric **Maximum: 8**

Students should be able to:

1. **select** appropriate mathematics when solving problems
2. **apply** the selected mathematicals successfully when solving problems
3. **solve** problems correctly in both familiar and unfamiliar situations in a variety of contexts.

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| Achievement Level | ProficiencyLevel | Level Descriptor | Task Specific Description |
| 7-8 | Score Advanced | The student is able to:i. **select** appropriate mathematics when solving challenging problems in both familiar and unfamiliar situationsii. **apply** the selected mathematics successfully when solving these problemsiii. generally **solve** these problems correctly. | * Can find the missing dimensions in a multi-step problem using appropriate tools.
* Can solve problems that include mixed units of measure.
* Can apply tools in a novel situation(may need to explore multiple solutions)
* Be able to show evidence of proficiency from the other bands in the rubric.
 |
| 5-6 | Strong | The student is able to:i. **select** appropriate mathematics when solving challenging problems in familiar situationsii. **apply** the selected mathematics successfully when solving these problemsiii. generally **solve** these problems correctly. | * Can accurately solve multiple-step problems.
* Can use tools to solve story problems or real world problems
 |
| 3-4 | Getting There | The student is able to:i. **select** appropriate mathematics when solving more complex problems in familiar situationsii. **apply** the selected mathematics successfully when solving these problemsiii. generally **solve** these problems correctly. | * Can successfully solve one part of a multi-step problem. Can solve multiple-step problems, with minor errors.
* Can accurately model a problem using a diagram.
* Can choose the appropriate tool for solving a problem.
* Can accurately solve multiple-step problems with scaffolding provided.
 |
| 1-2 | Not Yet | The student is able to:i. **select** appropriate mathematics when solving simple problems in familiar situationsii. **apply** the selected mathematics sometimes when solving iii. generally **solve** these problems correctly. | With help, partial success at score 3-4 and score 5-6 content |
| Score 0.0 | Score 0.0 | The student does not reach a standard indicated by any of the standards below. | Even with help, no success  |