



Part A: Using the figure above, prove that vertical angles are congruent. Use as many or as few rows in the table as needed.

Statements	Reasons

Part B: Write a conditional statement for the problem that you proved on Part A.

Answer	Scoring												
<p>Part A: Note: there are slightly different variations that are acceptable</p> <table border="1" data-bbox="94 321 1087 876"> <thead> <tr> <th data-bbox="100 326 571 370">Statements</th> <th data-bbox="577 326 1081 370">Reasons</th> </tr> </thead> <tbody> <tr> <td data-bbox="100 375 571 427"><1 and <3 are vertical angles</td> <td data-bbox="577 375 1081 427">Given</td> </tr> <tr> <td data-bbox="100 431 571 662"> $m\angle 1 + m\angle 2 = 180^\circ$ $m\angle 2 + m\angle 3 = 180^\circ$ </td> <td data-bbox="577 431 1081 662"> Linear pair theorem OR Two adjacent angles whose exterior sides for a line are supplementary </td> </tr> <tr> <td data-bbox="100 667 571 740">$m\angle 1 + m\angle 2 = m\angle 2 + m\angle 3$</td> <td data-bbox="577 667 1081 740">Substitution property</td> </tr> <tr> <td data-bbox="100 745 571 797">$m\angle 1 = m\angle 3$</td> <td data-bbox="577 745 1081 797">Subtraction property of equality</td> </tr> <tr> <td data-bbox="100 802 571 875"><1 (is congruent to) <3</td> <td data-bbox="577 802 1081 875">Angles with equal angle measurements are congruent</td> </tr> </tbody> </table> <p>Part B: Note: there are slightly different variations that are acceptable Conditional Statement: If two lines intersect to form vertical angles, then the angles have the same measure.</p>	Statements	Reasons	<1 and <3 are vertical angles	Given	$m\angle 1 + m\angle 2 = 180^\circ$ $m\angle 2 + m\angle 3 = 180^\circ$	Linear pair theorem OR Two adjacent angles whose exterior sides for a line are supplementary	$m\angle 1 + m\angle 2 = m\angle 2 + m\angle 3$	Substitution property	$m\angle 1 = m\angle 3$	Subtraction property of equality	<1 (is congruent to) <3	Angles with equal angle measurements are congruent	<p>Part A:</p> <p>4 – proof is correct and uses appropriate vocabulary and notation</p> <p>3 – proof contains all of the correct statements and reasons, however there may be 1-2 minor errors with notation and/or use of vocabulary/properties</p> <p>2 – Proof contains 1-2 major errors (i.e. provides a statement but not a reason, or an incorrect reason, i.e. student fails to include a necessary statement/reason)</p> <p>1 – student demonstrates an understanding of the proof and provides a partially correct response</p> <p>0 – proof contains many errors, or is significantly incomplete</p> <p>Part B: 2 pts 1 pt: for correct sentence structure “if..., then” 1 pt: for correct hypothesis and conclusion</p>
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Geometry Reasoning January ECR (*Vertical Angles*) – Rubric

Name: _____ Date: _____

CCSS: **G.CO.9** SMP: MP 2, MP 3, MP 6

Teacher: _____

<p>Task Description</p>	<ul style="list-style-type: none"> ➤ Uses precise vocabulary, properties, and theorems ➤ Applies algebraic properties to prove a geometric theorem ➤ Proves that vertical angles are congruent ➤ Writes statement in conditional statement structure ➤ Identify hypothesis and conclusion for a proven problem 				
<p>Command Level Description</p>	<p>Level 5: Distinguished Command</p> <p>Perform the task items accurately or with minor computation errors. (100%)</p>	<p>Level 4: Strong Command</p> <p>Perform the task items with some non-conceptual errors (89%)</p>	<p>Level 3: Moderate Command</p> <p>Perform the task items with minor conceptual errors and some computation errors. (79%)</p>	<p>Level 2: Partial Command</p> <p>Perform the task items with some errors on both math concept and computation. (69%)</p>	<p>Level 1:</p> <p>Perform the task items with serious errors on both math concept and computation. (59%)</p>
<p>Score range</p>	<p>6 pts</p>	<p>4-5 pts</p>	<p>2-3 pts</p>	<p>1 pt</p>	<p>0 pts</p>
<p>Task Score & PLD Assigned</p>					
<p>Teacher Feedback</p>					