



## Random Reporter Rubric

100 points: Gives a 90-point response AND explains how the problem and solution relate to one of the math practices.

90 points: Gives the correct answer AND explains how the problem was solved.

80 points: Gives the correct answer OR explains how the problem was solved.

## Think Like a Mathematician

<p><b>Make sense and solve it.</b></p> <ul style="list-style-type: none"> <li>• Use a step-by-step process.</li> <li>• Solve a simpler problem.</li> <li>• Ignore extraneous data.</li> </ul>	<ul style="list-style-type: none"> <li>• Explain the problem to yourself.</li> <li>• What vocabulary helps me to understand the problem?</li> <li>• Draw a picture or diagram to understand the problem.</li> <li>• Make a plan to solve the problem.               <ul style="list-style-type: none"> <li>○ Will the answer be a number, a number with units, a graph?</li> <li>○ Can you use simpler numbers to see what needs to be done?</li> <li>○ Can you estimate an answer?</li> </ul> </li> <li>• Does your answer make sense?</li> </ul>
<p><b>Translate into math.</b></p> <ul style="list-style-type: none"> <li>• Show the problem in a different way.</li> </ul>	<ul style="list-style-type: none"> <li>• Can you show the problem in a different way, for example, mathematical sentences, a diagram, or a table to make it easier to solve?</li> <li>• Substitute the numbers in the problem to solve it.</li> </ul>
<p><b>Defend and review.</b></p> <ul style="list-style-type: none"> <li>• Explain what you know.</li> <li>• Ask questions.</li> </ul>	<ul style="list-style-type: none"> <li>• Explain what you already know about this type of problem, for example, definitions, properties, and similar kinds of problems.</li> <li>• Use that information to solve the problem.</li> <li>• Can you explain your thinking?</li> <li>• What questions can you ask others to help them explain their thinking?</li> <li>• Does your process for solving make sense? Why?</li> </ul>
<p><b>Build a math model.</b></p> <ul style="list-style-type: none"> <li>• Sort and list.</li> <li>• Model the problem.</li> <li>• Make a diagram.</li> </ul>	<ul style="list-style-type: none"> <li>• Think about how the problem relates to real life.</li> <li>• Map the relationships in the problem, and draw conclusions to solve it, for example, diagrams, two-way tables, graphs, flowcharts, and formulas.</li> <li>• What math vocabulary helps to explain the solution?</li> <li>• Explain your solution and how it fits the situation.</li> </ul>
<p><b>Use your math Toolkit.</b></p> <ul style="list-style-type: none"> <li>• Calculator</li> <li>• Pencil and paper</li> <li>• Estimation</li> <li>• Algorithms</li> </ul>	<ul style="list-style-type: none"> <li>• Decide which tools can help you solve the problem, for example, pencil and paper, estimation, algorithms, manipulatives or diagrams, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software.</li> <li>• Use the tool(s) to solve the problem.</li> <li>• How did the tool help you solve the problem? Did it have limitations?</li> </ul>
<p><b>Be precise.</b></p> <ul style="list-style-type: none"> <li>• Define terms and symbols.</li> <li>• Find the solution.</li> </ul>	<ul style="list-style-type: none"> <li>• Define any terms or symbols that you need.</li> <li>• Calculate the solution.</li> <li>• Is your solution accurate and precise?</li> </ul>
<p><b>Find the patterns and structure.</b></p> <ul style="list-style-type: none"> <li>• Look for patterns.</li> <li>• Work backwards.</li> </ul>	<ul style="list-style-type: none"> <li>• Look for patterns and structure in the problem, for example, place value, ratios, inverses, factors, and distributive property.</li> <li>• Use the patterns and structures you found to solve the problem.</li> <li>• What structure helped you solve the problem?</li> </ul>
<p><b>Look for repetition.</b></p> <ul style="list-style-type: none"> <li>• What reports?</li> <li>• Is there a formula?</li> </ul>	<ul style="list-style-type: none"> <li>• Solve the problem. Is there repetition?</li> <li>• What math vocabulary best explains the regularity in the reasoning?</li> <li>• What did you do over and over again in solving this problem that can be done more efficiently?</li> <li>• Is there a general method or formula that could be used?</li> </ul>