

**Section 3.4 Achievement Check Rubric**

<b>Categories</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>
<b>Knowledge and Understanding</b> <ul style="list-style-type: none"> <li>• Finds the vertex and the roots of the quadratic function.</li> <li>• Draws a graph of the path of the rocket.</li> </ul>	Demonstrates limited understanding of the process of finding the vertex and roots of the function and draws an unlabelled and disproportionate graph.	Demonstrates some understanding of the process of finding the vertex and roots of the function and draws an unlabelled or disproportionate graph.	Demonstrates considerable understanding of the process of finding the vertex and roots of the function and draws a labelled and proportionate graph.	Demonstrates thorough understanding of the process of finding the vertex and roots of the function and draws a fully labelled and proportionate graph.
<b>Thinking</b> <ul style="list-style-type: none"> <li>• Prepares a plan to solve the problem.</li> <li>• Carries out the plan.</li> </ul>	Needs extensive assistance to begin organizing a plan and needs clearly laid out steps to follow.	Needs some assistance to begin organizing a plan and needs some steps to follow.	Needs minimal assistance to organize and implement an effective strategy.	Needs no assistance to organize and implement an effective strategy.
<b>Communication</b> <ul style="list-style-type: none"> <li>• Correct use of mathematical form.</li> <li>• Clear explanations and full justifications.</li> </ul>	Makes many notational errors. Does not clearly explain or justify solution.	Makes few notational errors. Explains and justifies solution somewhat.	Makes no notational errors. Explains and justifies solution fully.	Makes no notational errors. Explains, justifies, and shows insight into the complexities of the solution.
<b>Application</b> <ul style="list-style-type: none"> <li>• Determines the maximum height and when it occurs, the positive and negative intervals, the intervals over which the rocket is climbing and falling, and the length of time the rocket takes to fall to Earth.</li> </ul>	Interprets the information ineffectively, needing considerable assistance or makes many errors in identifying the solutions.	Interprets the information somewhat effectively, needing some assistance or makes a few errors in identifying the solutions.	Interprets the information with considerable effectiveness, needing little assistance and correctly identifies the solutions.	Interprets the information with a high degree of effectiveness, unassisted, and correctly identifies all of the solutions.