

Achievement Check Rubric

Category	Level 1	Level 2	Level 3	Level 4
Knowledge/ Understanding	<ul style="list-style-type: none"> demonstrates limited knowledge of how to find the dimensions for minimal surface area of a cylinder for a fixed volume 	<ul style="list-style-type: none"> demonstrates some knowledge of how to find the dimensions for minimal surface area of a cylinder for a fixed volume 	<ul style="list-style-type: none"> demonstrates considerable knowledge of how to find the dimensions for minimal surface area of a cylinder for a fixed volume 	<ul style="list-style-type: none"> demonstrates thorough knowledge of how to find the dimensions for minimal surface area of a cylinder for a fixed volume
Thinking	<ul style="list-style-type: none"> uses planning and critical-thinking processes with limited effectiveness 	<ul style="list-style-type: none"> uses planning and critical-thinking processes with some effectiveness 	<ul style="list-style-type: none"> uses planning and critical-thinking processes with considerable effectiveness (e.g., finds dimensions for minimal surface area in an organized way) 	<ul style="list-style-type: none"> uses planning and critical-thinking processes with a high degree of effectiveness (e.g., finds dimensions for surface area in a very well-organized way)
Communication	<ul style="list-style-type: none"> expresses and organizes mathematical thinking with limited effectiveness uses mathematical vocabulary and notation with limited effectiveness 	<ul style="list-style-type: none"> expresses and organizes mathematical thinking with some effectiveness uses mathematical vocabulary and notation with some effectiveness 	<ul style="list-style-type: none"> expresses and organizes mathematical thinking with considerable effectiveness uses mathematical vocabulary and notation with considerable effectiveness (e.g., expresses solutions in an organized manner) 	<ul style="list-style-type: none"> expresses and organizes mathematical thinking with a high degree of effectiveness uses mathematical vocabulary and notation with a high degree of effectiveness (e.g., expresses solutions in a clear and detailed manner)
Application	<ul style="list-style-type: none"> applies knowledge to this context with limited effectiveness 	<ul style="list-style-type: none"> applies knowledge to this context with some effectiveness 	<ul style="list-style-type: none"> applies knowledge to this context with considerable effectiveness (e.g., applies formulas correctly and provides some mathematical support) 	<ul style="list-style-type: none"> applies knowledge to this context with a high degree of effectiveness (e.g., applies formulas correctly and provides detailed mathematical support)