

CHAPTER 4: RUBRIC FOR CHALLENGE 1

Assessment Category	Scores and Criteria			
	Passable level of achievement – below provincial standard LEVEL 1	Moderate level of achievement – below, but approaching provincial standard LEVEL 2	High level of achievement – at provincial standard LEVEL 3	Very high to outstanding level of achievement – above provincial standard LEVEL 4
Knowledge and Understanding				
Understanding of concepts	Examples generated show limited understanding of asymptotes and how they divide the xy-plane	Examples generated show some understanding of asymptotes and how they divide the xy-plane	Examples generated show considerable understanding of asymptotes and how they divide the xy-plane	Examples generated show thorough, insightful understanding of asymptotes and how they divide the xy-plane.
Thinking, Inquiry, Problem Solving				
Creation of a model (algebraic, graphical, geometric, physical, technological) to solve a problem	Parts of the challenge were attempted but with no evidence of a plan.	A plan was used but was inappropriate or inadequate to complete the challenge.	An appropriate plan was used successfully.	The student used an appropriate plan that integrated all aspects of the challenge.
Selection and sequencing of a variety of tools and strategies to solve a problem	Student incorporates few properties of reciprocal or other functions in the search for functions that match the given criteria.	Student incorporates some properties of reciprocal and other functions in the search for functions that match the given criteria.	Student successfully incorporates many properties of functions in general and reciprocal functions in particular in a systematic search for functions that match the given criteria.	Student skillfully synthesizes properties of a variety of functions to move from one solution to the next
Justification of reasoning and/or conclusion	Few correct solutions are provided and cases are unconnected.	Some correct solutions are provided but few connections are made from one case to the next.	Student uses sound reasoning and is able to make some connections between the cases.	Student makes complex arguments. Solutions flow from one to the next and multiple connections are made between and among cases.
Communication				
Correct use of mathematical symbols, labels and conventions (units, formulas, labels on axes)	Errors with function notation and labels often missed on graphs.	Some errors with function notation and all graphs correctly labelled, or, function notation correctly used but some labels missing from graphs.	Function notation is correctly used and most graphs are fully and correctly labelled.	Consistently correct use of function notation and complete, correct labelling of graphs
Application				
Use of a selected tool or strategy in an unfamiliar setting	The student is unsuccessful in applying knowledge of asymptotes to the oblique asymptote cases.	The student recognizes the equation form for a function with oblique asymptotes but makes minor errors in its application to solve the challenge.	The student recognizes the equation form for a function with oblique asymptotes and successfully applies the form to solve the challenge.	The student recognizes and successfully applies the equation form for a function with oblique asymptotes and obtains multiple solutions to the challenge.