

Problem Solving Rubric¹²

	Level A:	Level B:	Level C:	Level D:
	<ul style="list-style-type: none"> • Little or no engagement • Lack of understanding 	<ul style="list-style-type: none"> • Pupil started problem but was unable to complete task • Some understanding 	<ul style="list-style-type: none"> • Correct answer • Strong understanding • Appropriate solution 	<ul style="list-style-type: none"> • Correct answer • Exceptional understanding
Problem Solving	<ul style="list-style-type: none"> *Pupil did not engage with task. *No strategy is chosen or the strategy chosen that will not lead to a solution. 	<ul style="list-style-type: none"> *A partially correct strategy is chosen. *No evidence of monitoring effectiveness of strategy chosen. 	<ul style="list-style-type: none"> *A correct strategy is chosen. *Planning or monitoring of the strategy is evident. 	<ul style="list-style-type: none"> *An efficient strategy is chosen. *Adjustments in strategy, if necessary, are made along the way, and /or alternative strategies are considered.
Reasoning	<ul style="list-style-type: none"> *Arguments are made with no mathematical basis. 	<ul style="list-style-type: none"> *Arguments are made with some mathematical basis. 	<ul style="list-style-type: none"> *Arguments are constructed with mathematical basis. 	<ul style="list-style-type: none"> *Deductive arguments are used to justify decisions and may result in formal proofs.
Communicating and Expressing	<ul style="list-style-type: none"> *No explanation is given as to how the problem was solved. * Mathematical language is not used. * Little or no mathematical notation. *No use of pictures/tables/graphs to aid explanation. 	<ul style="list-style-type: none"> *Some explanation of an approach is evident through verbal/written account. *An attempt is made to use formal mathematical language. *Some use of mathematical notation. *Some use of pictures/tables/graphs to aid explanation. 	<ul style="list-style-type: none"> *Explanation of approach is evident through coherent, sequenced response. *Formal maths language is used to share and clarify ideas. * Correct use of mathematical notation. *Pictures/tables/graphs used to aid explanation and clearly labelled. 	<ul style="list-style-type: none"> * Explanation lays out problem solution clearly and completely. *More than one solution is indicated, or detail of solution shows deep understanding. *Formal maths language is used to consolidate thinking and to communicate ideas. *Correct use of mathematical notation.
Integrating and connecting e.g.	<ul style="list-style-type: none"> *No evidence of drawing on prior knowledge. *No connections are made or connections made are mathematically or contextually irrelevant. 	<ul style="list-style-type: none"> *Evidence of drawing on some relevant previous knowledge. *A mathematical connection is attempted but is partially incorrect or lacks contextual relevance. 	<ul style="list-style-type: none"> *Evidence of reinforcement of prior knowledge and applying it to the problem-solving task. *A mathematical connection is made. Proper contexts are identified that link both the mathematics and the situation in the task. 	<ul style="list-style-type: none"> *Mathematical connections are used to extend the solution to other areas of mathematics. *Mathematic connections lead to a deeper understanding of the mathematics in the task.

¹ Adapted from Exemplars, Inc. (2014)

² Adapted from Regina Public Schools

