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| Assessment 8Dusty Wilson Math 163No work = no credit | **Name**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*With the exception of the geometric series, there does not exist in all of mathematics a single infinite series whose sum has been determined rigorously.* Niels Henrik Abel1802-1829 (Norse mathematician) |

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| Warm-ups (1 pt each): | = | = |  = |

(1 pt) In the quote, Abel indicates that there was only one series whose sum was well established. Do you feel like the power series discussed in class have been studied rigorously? Why or why not? Answer using complete English sentences.

(5 pts) Find the Maclaurin series for . Please show the process/derivation although you may certainly check by modifying a known power series.

(5 pts) Find the radius of convergence of the series 

(1 pt) What is a power series?

(5 pts) Find the radius of convergence of the series 

(5 pts) Find a Maclaurin series for  by modifying a known power series.