Name: ______________________

Discussion number: ____________

• You are not permitted to use your notes, book, or any other written materials.

• Show all of your work in order to receive full credit.

• Simplify all answers. Give exact answers (i.e., fractions, radicals, etc.) unless instructed otherwise. You are not required to rationalize denominators.

• Place your final answers in the boxes provided.

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Page 1
1. (10 points) Find the absolute maximum and absolute minimum values of
\( f(x) = 2x^3 - 3x^2 - 12x + 1 \) on \([-2, 3]\).

2. (10 points) Does there exist a function \( f \) such that \( f(0) = -1, f(2) = 4 \) and \( f'(x) \leq 2 \) for all \( x \)? (Justify your answer.)