Worksheet 10 Numerical Analysis Spring 2023

Name: _____ NetID: | | | | | | | | | | |

Name: _____ NetID: | | | | | | | | | | |

Name: _____ NetID: | | | | | | | | | | |

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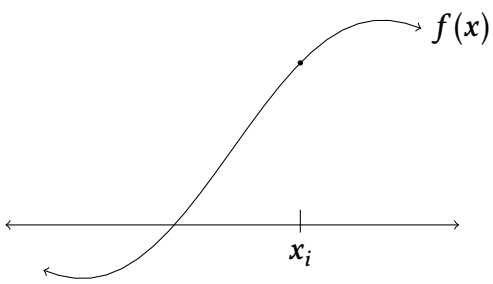
Work in groups of at least 2 and at most 4.

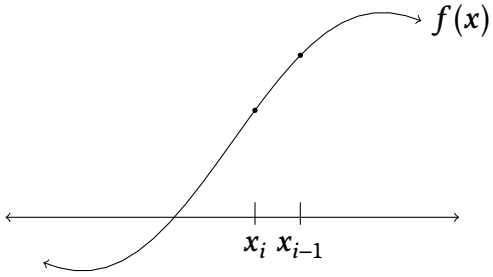
Draw the linear approximation to $f(x)$ at a point x_i:



Write down the formula for this approximation:

Define x_{i+1} to be the zero to the linear approximation. Find the formula for x_{i+1} in terms of x_i, $f(x)$, and $f'(x)$.

Draw the secant line through $(x_i, f(x_i))$ and $(x_{i-1}, f(x_{i-1}))$.



Write down the formula for this approximation:

Define x_{i+1} to be the zero to the linear approximation. Find the formula for x_{i+1} in terms of x_i, x_{i-1}, and $f(x)$.