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| **Class** | **PreCalculus** | **Topic** | **Extrema and Average Rates of Change** | **Lesson** | 4 | **Of** | 1 |

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| **Objective** | Students will:   * Interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity. * Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph. |
| **“I Can” Statement** | I can interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.  I can calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph. |

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| **Common Core Standards** | CCSS.MATH.CONTENT.HSF.IF.C.9  Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.  CCSS.MATH.CONTENT.HSF.IF.B.4  For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.\*  CCSS.MATH.CONTENT.HSF.IF.B.6  Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.\*  CCSS.MATH.CONTENT.HSF.IF.C.7.A  Graph linear and quadratic functions and show intercepts, maxima, and minima. |

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| Bell **Work** | See 1-4 Bell work |

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| **Procedures** | 1. Start and lead student discussion related to the bell work.  2. Distribute the Guided Notes  3. Present lesson or play a video lesson.  4. Use an Online Activity if time permitted.  5. Distribute Lesson Assignment. |

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| **Assessment** | Bell Work 1-4  Assignment 1-4  Exit Quiz 1-4 |

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| **Additional Resources** | See Online Activities |