Unit 4: Rate of Change Problems MVC4U

Lesson Outline

<table>
<tr><td colspan="4">

Big Picture

Students will:
- connect concepts of motion and derivatives;
- solve rates of change and optimization problems in a wide variety of contexts and interpret the results.

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<tr>
<th>Day</th>
<th>Lesson Title</th>
<th>Math Learning Goals</th>
<th>Expectations</th>
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<tr>
<td>1–3</td>
<td>Rate of Change Problems

(lessons not included)</td>
<td>

- Make connections between the concept of motion and the concept of the derivative in a variety of ways.
- Make connections between graphical and algebraic representations and real-world applications.
- Solve problems in wide variety of contexts and interpret the results.

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<td>B2.1, B2.2, B2.3</td>
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<tr>
<td>4–8</td>
<td>Optimization Problems

(lessons not included)</td>
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- Solve a variety of optimization problems given an algebraic model.
- Solve a variety of optimization problems requiring the creation of an algebraic model.

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<td>B2.4</td>
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<tr>
<td>9</td>
<td>Solve Problems from Data

(lesson not included)</td>
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- Solve problems arising from real-world applications by applying a mathematical model and the concepts and procedures associated with the derivative to determine mathematical results, and interpret and communicate results.
- Revisit some of the rate of change and rate of flow problems from Unit 1.

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<td>B2.5</td>
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<tr>
<td>10</td>
<td>Jazz Day</td>
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<tr>
<td>11–13</td>
<td>Summative Assessment for Units 3–4</td>
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