

Hot Rod Quadratics

Lesson Title	Content and Practice Standards	
<p>Hot Rod Quadratics</p> <p>Topic</p> <p>Quadratics</p> <ul style="list-style-type: none"> • Creating a quadratic function based on coordinates • Finding the zeros of a quadratic 	<p>CCSS.MATH.CONTENT.HSF.IF.C.7</p> <p>Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.</p>	<p>CCSS.MATH.CONTENT.HSF.IF.C.7.A</p> <p>Graph linear and quadratic functions and show intercepts, maxima, and minima.</p>
<p>Agenda</p> <p>Warm Up (5 minutes)</p> <p>Which One Doesn't Belong? quadratics</p> <p>Posing the Task (15 minutes)</p> <p><i>Play Act 1 of the video for clarity.</i></p> <p>Ask, "After watching Act 1, what are you left wondering about?"</p> <p>Potential questions to co-develop:</p> <ul style="list-style-type: none"> • Will he make it to the other side? • What shape is the trajectory of the cycle? 	<p>Planning for Academic Safety</p> <p>Mathematical Habits you want to highlight and amplify during the lesson:</p> <ul style="list-style-type: none"> Organizing information Using technology as a mathematical tool Encouragement of peers Seeking help and understanding <p>Students to assign academic status:</p> <p>Mina, Rafael, Oscar, Niel</p>	
<p>Student Work Time (15 minutes)</p> <p><i>Share Act 2 materials.</i></p> <p>Check in with each group. Make sure they've identified three coordinate pairs before hosting a workshop.</p> <p>Look for groups creating their parabola carefully.</p>	<p>Planning Effective Facilitation</p> <p>Structures and Routines:</p> <ul style="list-style-type: none"> Reviewing and debriefing classroom norms Groupwork structures & roles <p>Workshops:</p> <ul style="list-style-type: none"> Creating a quadratic (optional) Finding roots (Jigsaw – one participant per group) 	<p>Planning a Quality Task</p> <p>Task Type and Description:</p> <p>3-Act Task: Hot Rod Quadratics</p> <p>Will Andy Samberg make his jump over 15 school busses?</p> <p>https://emergentmath.com/2013/04/23/hot-rod-quadratics-lets-jump-this-jump/</p> <p>Student Work to Collect:</p> <p>Poster paper, after feedback has been utilized to improve groups' work</p>

Planned Workshops

(20 minutes)

Optional workshop: Creating a quadratic based on three points

Jigsaw workshop: Finding the roots of a quadratic

Solution Sharing

(20 minutes)

Gallery walk—Students will post their solutions on poster paper. Each group will spend five minutes at a poster and leave feedback on sticky notes.

Debrief/Exit Ticket

Play the final video, Act 3

- What feedback did you find useful?
- What questions do you still have about the content?
- How did we do with our norms today? Are there any we need to think about for tomorrow?