

Activity Title: Pacing Tiger		
Description	Instructor Notes	Slides/Handouts/Files
The students will generate data and then investigate the properties of the absolute value function.	<p>The students will create their own data by walking towards the CBR and backing away from the CBR. The absolute value function is not a standard function with auto curve fitting. This provides the student with the opportunity to discover the effects of A, B & C in the $y = A * x - B + C$ on the graph as well as the physical experiment.</p> <p>The usual set-up would include 4 students, TI-Nspire, CBR2, watch & tape measure. The highlight occurs when the students discover the connections of A,B &C with the speed, time when the direction changes and the distance from the CBR when the direction changes.</p>	CBR2 & cable watch with second hand, tape measure student activity handout
Participant Discussion		
<p>Absolute value is a function familiar to Algebra I students. This experiment provides an opportunity for the students to make concrete connections with the elements of the experiments and the characteristics of the function that matches their data. This activity can help make a bridge from linear functions to quadratic functions.</p> <p>$y = A * x - B + C$ The value of A has similarities to the slope but it also widens or narrows the V. The values of B & C can be used to introduce the concept of the vertex.</p> <p>After each group has collected their data and answered the questions, it is useful to compare their equations and graphs that each group has used to model their data.</p> <p>Another challenging exercise is to provide the students with a different data set and see if they can recreate the experiment to fit the data.</p>		