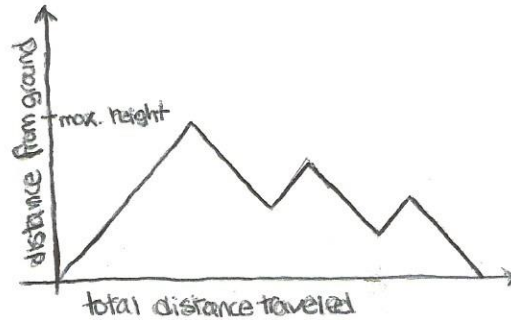Day ???

Power Tower Activity (Moore)

Graph the distance from the ground of an individual (vertical axis) vs. the individual's total distance traveled (horizontal axis) (assume their feet were touching the ground at the beginning of the video).

Note: # of peaks may vary
slope always ±1

Give a justification for your graph.

linear relationship talk: mention of a one unit increase in one variable results in a one unit increase/decrease in the other variable

logistics: total distance never decreases, but height does; ride gradually moves closer to ground in "yo-yo" way

Choose a point on the graph and explain the meaning of that point.

(a,b): when the ride has traveled a total distance of a, the corresponding vertical height is b

Note: issue if input is switched to distance from ground (def. of function)

Assuming that the ride was doubled in height, draw a second graph using the same axes above that reflects the relationship of an individual's distance from the ground vs. the individual's total distance traveled (assume their feet were touching the ground at the beginning of the video). Give a justification for your graph.

Same graph as before., but with new max. height because the relationship does not change

Note: You may want students to graph this situation on the same graph as before., in which case, the result would look more like this
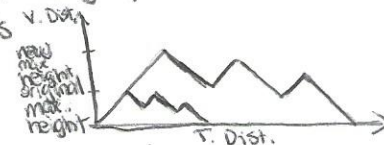
Assuming that the ride was doubled in speed, draw a second graph using the same axes above that reflects the relationship of an individual's distance from the ground vs. the individual's total distance traveled (assume their feet were touching the ground at the beginning of the video). Give a justification for your graph.

Speed does not affect the shape of the graph.

BONUS: Students may consider parameterizing the situation with time by saying that the line would be traced out twice as fast.