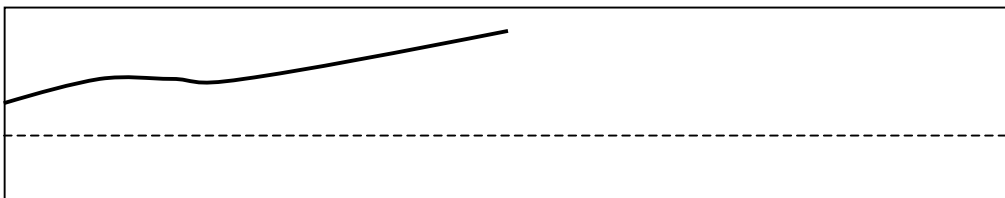
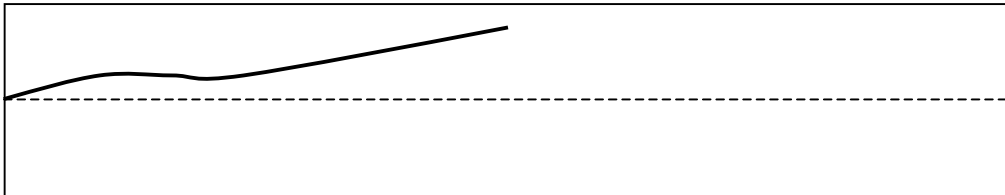


Ranking Gravity Powered Cars

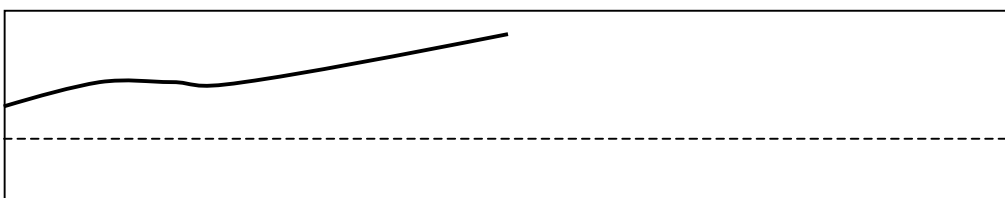
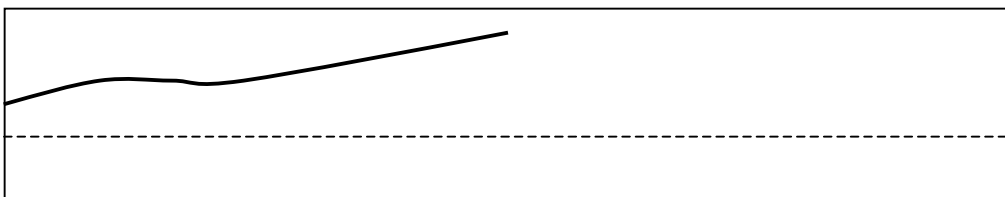
Name _____

Our definitions of “far” and “straight.”

Far:



Straightness:



Run your car three times and record the measurements for both far-ness and straight-ness in the table below. Use metric units for any length.

Trial	Far1	Far2	Straight1	Straight2	Rating 1	Rating 2
1						
2						
3						

It would be nice if we could come up with a single measure of success that captured both values, so that we could tell, at a glance, just how well the car did. So, we need to think about how to combine our different scores for *far-ness* and *straight-ness*. Work with your partner to come up with a way of creating a single score that allows you to **rank** the different cars on their performance. Write how you will do this in the space below:

Calculate your ranking for all six cars.

Car/Point	Far	Straight	Rating
1			
2			
3			
4			
5			
6			

The rule you came up with is a function. Does your ranking function seem to judge the performance well? Is a high score good or bad?

Can you create an imaginary final location that would produce a good score but not actually deserve it? In other words, can you come up with an extreme situation to test your formula?

Can you propose another way to combine the scores? Is a different operation better?

Starting Point
(end of ramp)

Use the mini-“hallway” drawn at right. Mark a point for where a car ended its journey (you are just picking a location as you wish). Measure using centimeters and calculate its combined score. Repeat this process, label each point A through E.

The rating rule that I will use is:

Point	Far	Straight	Rating
A			
B			
C			
D			
E			

Experiment until you can find 3 different final points that have the same score. **Label** these three points 1, 2, and 3.

