

NAME: _____ SUFFIELD HIGH 06

PHYSICS at Lake Compounce: R. Therrien Data Sheet: 6 or 7 out of 14 rides, MUST do #1 or # 5
MUST meet with teacher 11:20-12 at CrocPot restaurant across from Carousel/Wildcat at a table.

Bus #1 at front gate (inside park) at 1:08 pm leave with Ms. Radz. will leave without you!

Bus #2,3 Check in again 1:30-2 pm at CrocPot restaurant across from Carousel at a table.

Bus #2,3 at front gate (inside park) at 3:11 pm to leave with Mr T.

Call if problem Cell: 860-202-8389. BE NICE!, SAFE!, FUN!

1) ZOOMERANG/Looping Coaster (5 pages 1-5) (there may be a yellow marker on the rail of the fence under the Zoomerang. It is exactly 107 ft, 7 in from the bottom of Loop, 185 ft from first rise of first hill, 185' under the starting end of the Track (Lift1).

your pace in m _____ your mass in kg _____ Paces from coaster _____

Sight angle to top of first hill _____ Sight angle to top of loop _____ Sight angle to bottom of loop _____

Angle of rise, first hill _____ Time for car to reach top of first hill _____

Time for car to go from top to bottom of first hill _____ Total time of ride _____ Avg. number of people per ride _____

Force Sensation and vertical force measurement at

Top of first hill _____ Bottom of first hill _____

Top of loop _____ Bottom of loop _____

2) ROTOR (4 pages, 6-9)

your mass _____ Radius of Rotor 2.14 m Force read at top Speed in g's (horizontally) _____

Time for ten revolutions _____ Behavior of objects at top speed _____

3) THE PIRATE (1 page 10) (There may be a nail driven into the asphalt directly in front of and 100 ft from the Pirate, at the intersection of perpendicular lines from the lamp post in front of the Pirate and a nearby lamp post in front of the Twister.

your pace in m _____ Paces from coaster _____ Sight angle to Maximum Height of Pirate _____

Sight angle to top of swing _____ Sight angle to bottom point of swing _____ (to get radius)

Force at top of swing _____ Force at bottom of swing _____

Period of Swing _____ (Average over 10) Number of People on ride _____ Average mass of people on ride _____

4) CAROUSEL (3 pages 11-13) 2 different trials at 2 different distances from center

Distance from center _____, _____ Period for 5 revolutions _____, _____

Number of horses in the "row", "ring" _____, _____ Space between horses in ring _____, _____

Horizontal force reading at top speed _____, _____

Vertical force reading on horse going up from bottom _____, _____ Vertical force reading on horse going up in middle _____, _____

Vertical force reading on horse arriving at top _____, _____ Vertical force reading on horse going down from top _____, _____

Vertical force reading on horse going down in middle _____, _____ Vertical force reading on horse arriving at bottom _____, _____

5) WILDCAT! Roller Coaster (4 pages 13-16) (A nail may have been placed into the asphalt in front of the raised garden (with the Carousel horse) in the entrance plaza. It is aligned with the highest point of the first hill of the Wildcat roller coaster and is 7 ft 4 in from the garden wall when facing and aligned with the flag atop the Wildcat. The nail head is 186 ft. from a point below the highest elevation of the Wildcat)

your pace in m _____ your mass in kg _____ Paces from coaster _____

Sight angle to top of first hill _____ _ Sight angle to bottom of first hill _____

Angle of rise, first hill _____ Time for car to reach top of first hill _____ Sight angle of first turn _____, _____ (radius)

Time for car to go from top to bottom of first hill _____ Time to stop at end of ride _____

Force Sensation and vertical force measurement at

Top of first hill _____ Middle of first hill _____ Bottom of first hill _____ In first turn _____

6) WAVE SWINGER (Rotating Swings) 4 pages, 17-20) Your mass in kg _____
 Time of swings (2 revolutions) at top speed _____ Time of 2 revolutions at bottom speed _____
 Period of ride when movng and not tilted _____, Period of ride when moving and tilted _____
 Angle chain makes with the vertical at top speed _____ angle difference between empty and full swing at same radius _____
 Force reading at top speed _____ Force sensation moving _____ down when tilted _____ up when tilted _____
 Radius of ride circle of chair _____ Length of chain _____

7) SAW MILL PLUNGE (1 page 21) (a stone marker may be in the grass with trees in front of the water pumps at the lift slope, outside the fence, and up the stone-walled terrace. The marker is 75 meters horizontally from under the top of the drop hill. The ground at the marker is 1 m below the bottom of the drop hill)
 Length of boat _____ Paces away from hill _____ Angle to top of hill _____ Angle to bottom of hill _____ Drop Hill H _____
 Time for whole boat to pass before going to top of hill _____ Time for boat to come down hill _____ Time duration of splash _____
 time for boat to pass any point AFTER splashing at the bottom of hill _____

8) MT SOUTHLINGTON SKYRIDE (1pg 22) MAKE SURE YOU HAVE 30 min for this ride!!!
 Time for ride up _____ down _____ Total time _____
 Round Trip distance in m _____ Distance between chairs _____ Number of chairs _____

9) FERRIS WHEEL (1 pg 23) _____ paces from wheel _____ Sight angle to top _____ Sight angle to bottom _____
 angle to side points _____ Period of rotation _____ Number of gondolas _____ Total time of ride _____

10) ENTERPRISE (3 pgs 24-26) Radius of the wheel _____ (or paces away _____, sight angle1 _____ sight angle2 _____)
 Angle each car makes with vertical as wheel is full speed whil still rotating horizontally _____ Difference in car angles _____
 Angle of each car relative to suspension pt when arm is at max vertical elevation approaching top _____, approaching bottom _____
 Period of motion when car is rotating at fastest rate _____
 Force readings and sensations when rest _____ full speed horizontal _____
 full speed at max vertical at top _____, full speed at max vertical halfway down _____ full
 speed at max vertical at the bottom _____, full speed at max vertical halfway up _____

11) BUMPER CARS (1page 27) Mass of bumper car__385 lbs__ mass of you _____, mass of partner _____
 Average speed_(est)_____ Car stopping distance(est) _____
 Force in a one way collison _____ Force in a two way collision _____
 Feeling,force sensation, "give" of car when
 1 car to another stopped car _____ rear end collision _____
 full head on collision _____ side rail collision _____ side swipe _____

12) THUNDER RAPIDS RAFT RIDE (pg 28)
 Radius of raft _____ Paces from conveyor hill _____, sight angle of conveyor hill _____, Hill Height _____
 Time for raft to pass pt going up hill _____ Time for raft to cycle the route _____ Time duration of raft in load/unload _____
 Time for raft to pass a pt after entering station until it drops of conveyor hill _____ Splash time of full raft _____ empty raft _____
 Place where riders lunge forwad _____

13) BOULDERDASH!!!! (pg 29)
 Capacity of car _____ time of ride total _____ Time from loading to unloading _____
 Angle of first hill _____ Height of first hill _____ (or paces away _____ Sight angle of top of hill _____)
 Time to climb first hill _____
 Height of largest drop hill _____ (or paces away _____ Sight angle of top of hill _____)
 Force sensations or readings when _____ bottom of first hill _____ bottom of largest drop hill _____
 while in the air _____ backward leaning zones _____ forward leaning zones _____

14) Down Time:
 guests on ride _____ cycle time of ride _____ time for cart lifted (from weighin) _____
 time of cart's turbo descent (release to bounce) _____ angle to top of down time _____