

Roberto's Data

You will need a sheet of *Centimeter Graph Paper* and a ruler.

This is Roberto's data from the Downhill Racer lab.

<i>H</i> Ramp Height (in cm)	<i>D</i> Distance Rolled (in m)				Ordered Pairs (<i>H</i> , <i>D</i>)
	Trial 1	Trial 2	Trial 3	Average	
8	0.97	0.93	0.95		
16	1.75	1.79	1.80		
24	3.01	2.97	2.90		

- Find the median distance (*D*) for each height. Write your answers in the Average column in the table. Record Roberto's data as ordered pairs in the table.
- Why did Roberto carry out three trials for each height?

- Graph Roberto's data.
- Fit a line to Roberto's data.

Use your graph of Roberto's data to answer Questions 5–9.
Show your thinking on your graph.



- If the ramp height were 4 cm, predict how far Roberto's car would roll.
- If the ramp height were 20 cm, predict how far Roberto's car would roll.
- If Roberto's car rolled 2.5 m, predict the height of the ramp.

8. What should Roberto do so that his car rolls 3.5 meters?

9. Roberto's friend Keenya used Roberto's car and ramp to collect her data. Keenya moved her starting line higher than Roberto's.
 - A. What do you think Keenya's graph will look like? Will her line be above or below Roberto's? Draw a line on your graph and label it "Keenya's Data."

 - B. Show or tell how you decided where to draw the line for Keenya's Data.

Roberto's Data Feedback Box	Expectation	Check In	Comments
	Make a point graph using ordered pairs with decimal values. [Q #3]	E2	
Make predictions by interpolating from data. [Q #6 and 7]	E3		
Make predictions by extrapolating from data. [Q #5 and 8]	E3		
Make generalizations from line graphs. [Q #9]	E3		

	Yes . . .	Yes, but . . .	No, but . . .	No . . .
MPE5. Show my work. I show or tell how I arrived at my answer so someone else can understand my thinking. [Q# 5–9]				