

NAME \_\_\_\_\_

Date \_\_\_\_\_

PERIOD \_\_\_\_\_

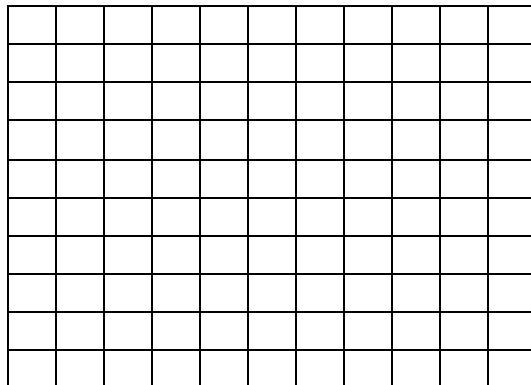
MS 4

Jake and Elysa took time measurements for their electronic car and recorded them below.

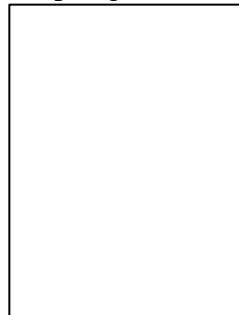
1. Directions: Find the average times for each setting on their potentiometer (PO ten-shee-o-meter”). Avg. Hint ?

Potentiometer Setting	Trial 1 Time (s)	Trial 2 Time (s)	Average Time (s)	Distance (cm)
1	4.75	4.8		150
2	4.3	4.26		150
3	3.67	3.87		150
4	2.12	4.36		150
5	2.84	2.64		150

- 2a. Graph their distance vs. average time for each potentiometer setting.



Graphing Hint (teacher)



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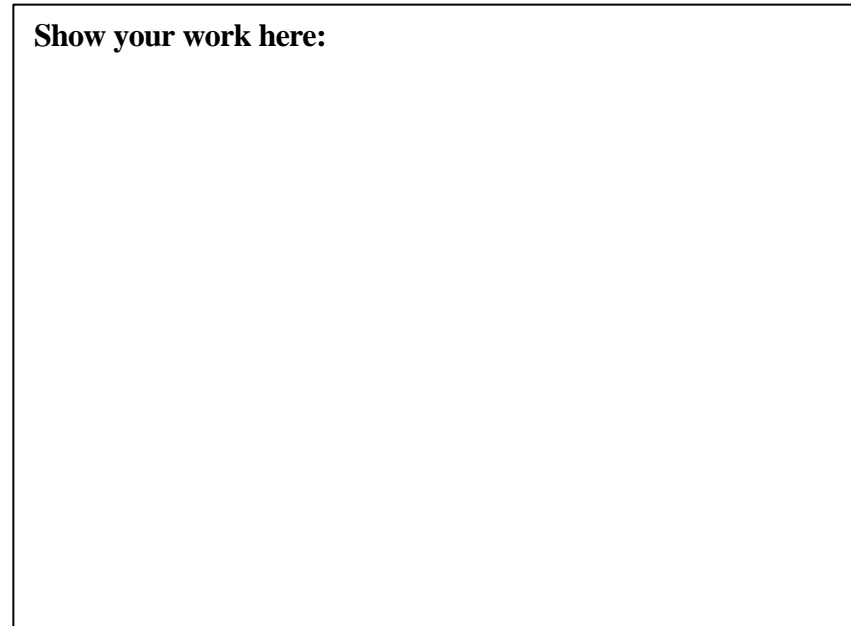
3. Calculate the average speed of their car at each setting.  
**You must show your work for credit!!**

Potentiometer Setting	Average Speed cm/s
1	
2	
3	
4	
5	

Speed Hint

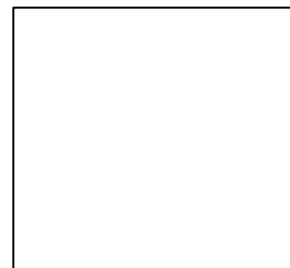


**Show your work here:**



- 4a. Graph their car's average speed and potentiometer setting.


Graphing Hint



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**4b.** What are the two variables in this experiment?

**4c.** Which variable is the independent variable? WHY?

**5a.** What is the relationship between the potentiometer setting and the speed of Jake and Elysa's car?

**5b.** Predict the speed of the car when they set the potentiometer to 4.5. (MUST SHOW WORK)

**5c.** Explain how you got your answer to 5b.

**6a.** Imagine you could turn the potentiometer to 9 on this car. What would its average speed be? (MUST SHOW WORK)

**6b.** Explain how you got your answer.

**7.** Imagine you could turn the potentiometer to some setting  $n$  on this car. Create an expression or equation that would help you to find the speed at the  $n$ th setting.