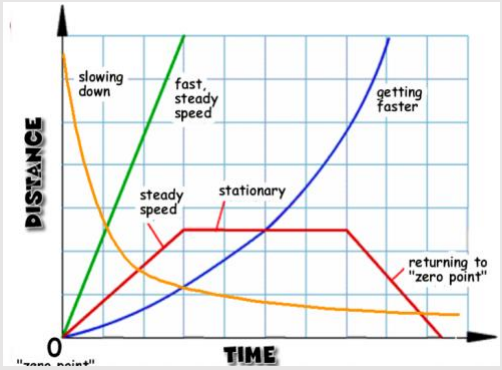
MPM 1D Handout
Unit 2 Review

Date: **Name:**

Important Stuff to Remember:

- A **population** is the entire group you wish to gather data about. A **sample** is the selection from the group that you actually study.
- Random sampling reduces **bias**, and you can use a true random sample, a **systematic** random sample, or a **stratified** random sample. **Non-random samples** create bias by limiting the sample to a select group.
- Know your vocabulary so that you can answer questions appropriately!!!
- You MUST label all axes with a title and numbers on your scale, and all scatter plots/DT graphs need a title!
- Please use a ruler to create your axes, and plan ahead when choosing your scale!
- Lines of best fit are used for linear relations and must split the data evenly on both sides, pass through as many points as possible, and follow the trend of the data.
- Positive correlations rise to the right, while negative correlations fall to the right. A strong correlation forms a narrow oval, while a weak one makes a wide oval and data with no correlation can be enclosed by a circle.
- Include as much detail as possible in your descriptions, and draw your graphs accurately (label scales, axes, and provide a title!)
- For DT graphs:



Connections to Unit 1:

- To find the sample for a stratified random sample, you must use percent of a number.
- To find speed from a DT graph, you must write a unit rate comparing distance to time.

1. Go through your notes and use the information in them to complete the table below.

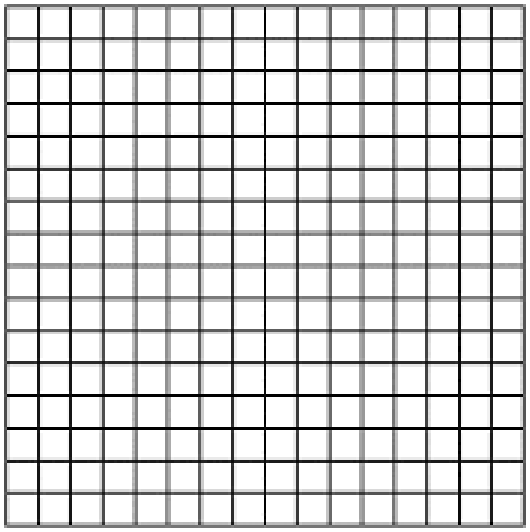
Term	Definition	Example
Variable		
Dependent Variable		
Independent Variable		
Inference		

Term	Definition	Example
Scatter plot		
Outlier		
Hypothesis		
Primary data		
Secondary data		
Population		
Sample		
Census		
Random sampling		
Simple random sample		
Systematic random sample		
Stratified random sample		
Non-random sampling		
Bias		
Line of best fit		
Interpolating		
Extrapolating		
Linear relation		
Non-linear relation		
Correlation		

2. A high school has 350 grade 9 students, 400 grade 10 students, 280 grade 11 students, and 300 grade 12 students. The principal wants to use a stratified random sample to survey 200 students about a new dress code. How many students from each grade should she choose? (The sample needs to be proportional, so use PERCENT OF A NUMBER!!).

3. The table below shows the heights and show sizes of ten grade nine boys.

Height (cm)	Shoe Size
157	7
168	8.5
162	8
151	6.5
186	12
180	11
167	12
159	9
168	9.5
181	10



a. Make a scatter plot of the data.

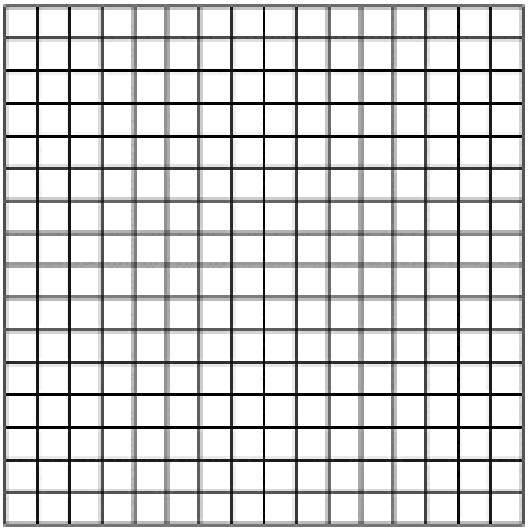
b. Describe the relationship between height and shoe size.

c. Identify any outliers. Should you discard them? Explain.

4. The table below shows the growth of a plant over the course of a week.

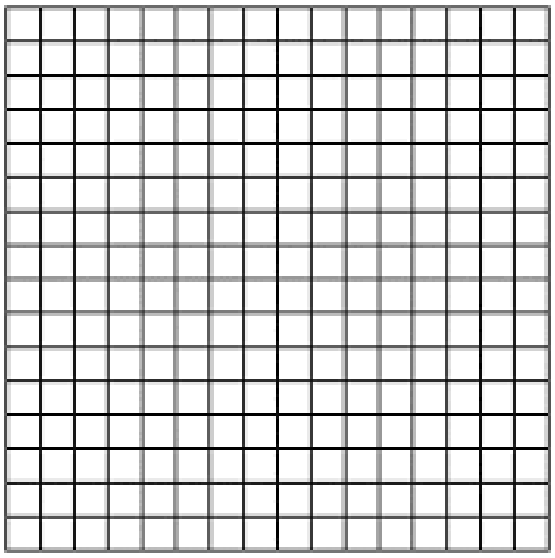
Time (days)	Height (cm)
0	0.4
1	1.7
2	3.5
3	4.4
4	5.1
5	5.4
6	5.7
7	5.9

Plot the data and draw a line/curve of best fit. Is the relationship linear or non-linear?



5. After landing on Mars, a spacecraft shoots out a probe to take measurements away from any possible contamination at the landing site. This table shows the probe's height during the first 4 seconds of its flight.

Time (s)	Height (m)
0	1.0
0.5	5.5
1.0	9.2
1.5	11.8
2.0	13.6
2.5	21.4
3.0	14.4
3.5	13.3
4.0	11.4



a. Make a scatter plot.

b. Describe the relationship between time and height.

c. Identify any outliers. What could have caused them?

d. Draw a line or curve of best fit, excluding any outliers.

e. Use your line/curve to estimate the probe's height after 5s. Did you interpolate or extrapolate?