

MPM 1D Handout
2.4 Trends, Interpolation and Extrapolation

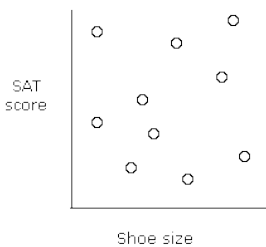
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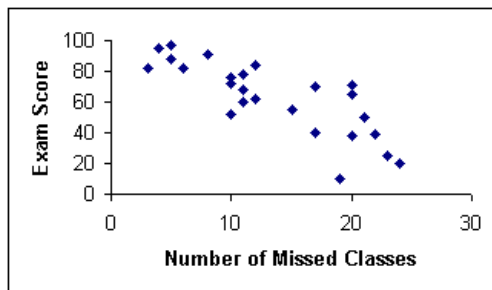
- Please use a ruler to create your axes, and plan ahead when choosing your scale!
- Refer to your notes to ensure that you are using vocabulary correctly.
- Answer explanation questions clearly. This is practice for assessments!
- Most of the questions are from p. 72 - 76 in your text – the handout was just to provide you with grids, but you can use your text to check answers (or my solutions on the board)

1. Complete the questions that go with the scatter plot in question C2 on p. 72 in your textbook here.

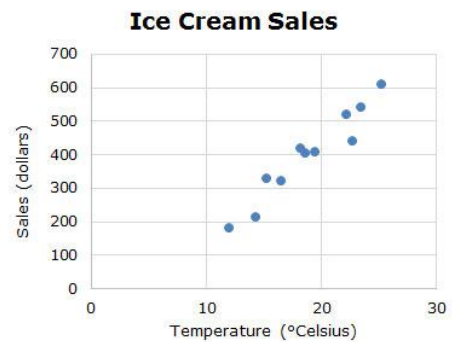
2. The scatter plot below shows the relationship between SAT score (standardized test) and shoe size. Describe the type of relationship that you see and explain why it makes sense.



3. The scatter plot shows the relationship between exam score and missed classes. Describe the trend in the data and explain why it makes sense.

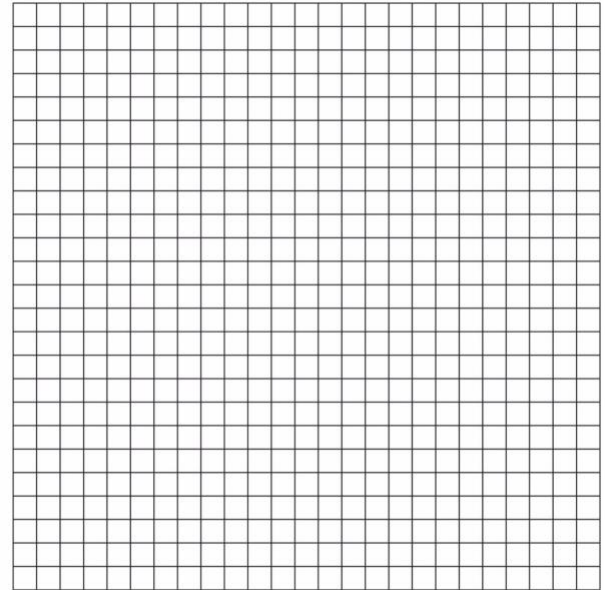


4. The scatter plot shows the relationship between ice cream sales and temperature. Describe the type of relationship that you see and explain why it makes sense. Also, predict the value of sales if it is five degrees Celsius. Did you interpolate or extrapolate?



5. The table below lists the estimated population of the world over a period of 1000 years.

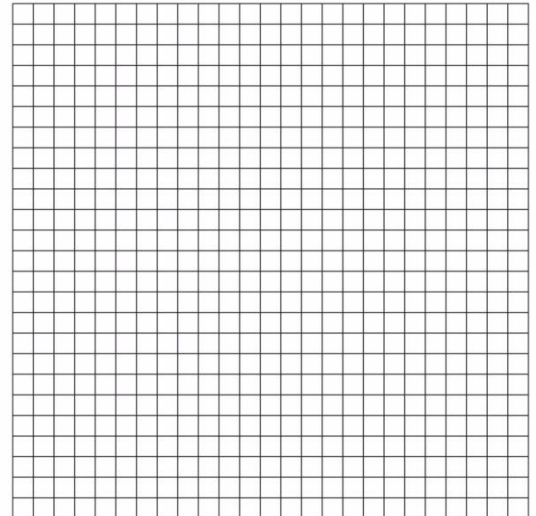
Year	Population (millions)
1000	310
1250	400
1500	500
1750	790
1800	980
1850	1260
1900	1650
1950	2520
2000	6060



- Make a scatter plot of the data.
- Describe the trend in world population growth.
- What do you think that the population will be in 2050? Did you interpolate or extrapolate on your graph?

6. The table below shows the approximate average retail price of 4L of milk in southern Ontario since 1980.

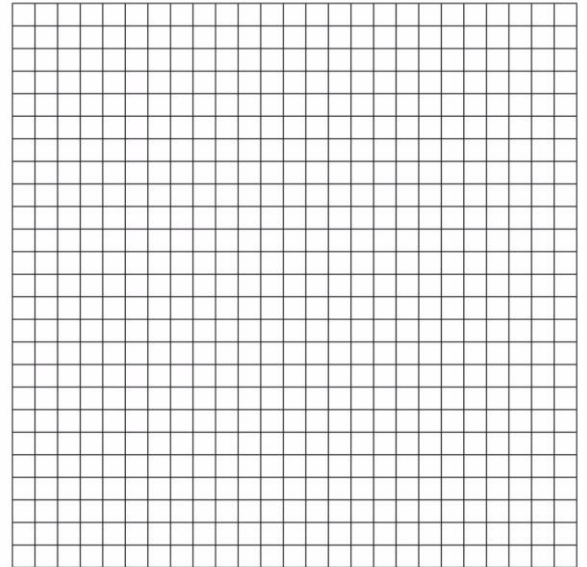
Year	Price (\$)
1980	1.87
1985	2.85
1990	3.30
1995	3.56
2000	3.82
2005	4.70



- Make a scatter plot of the data.
- Describe the trend in milk prices
- Estimate the cost of 4L of milk in 1998. Did you interpolate or extrapolate to do this?
- Predict when the price of milk will reach \$6.60.

7. The table below shows the time it takes a skateboarder to reach the bottom of a ramp when starting from various points along the ramp.

Initial height (m)	Descent time (s)
2.0	1.4
2.7	1.9
3.4	2.5
3.8	2.7
4.0	2.8
4.5	2.2
4.7	3.0
5.0	3.1



- Identify the independent and dependent variables and explain your reasoning.
- Make a scatter plot of the data.
- Describe the relationship between the variables.
- Identify any outliers in the data. Would you include them in the data set?
- Estimate the time it would take the skateboarder to reach the bottom of the ramp from an initial height of 3.6 m. Did you interpolate or extrapolate to make this estimate?
- Estimate the initial height if the skateboarder's descent took 1.5 seconds. Did you interpolate or extrapolate to make this estimate?