**Height vs. Shoe Size**

This activity is based on collecting data on height and shoe size from members of your class.

**Individual Data**

1. What is your height in inches?
2. What is your shoe size?

**Group Data**

1. Enter in a table on the board with other members of your class. Then copy the class data in the table below.

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| Height (inches) | Show size |
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| --- | --- |
| Height (inches) | Shoe size |
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| --- | --- |
| Height (inches) | Shoe size |
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1. Plot the data points on the graph.

Don’t forget to label your axes.

1. Draw a trend line through the data points.
2. Find an equation for your trend line.

Round the slope to the nearest hundredth.

1. What does the slope mean in the context of this problem?
2. Substitute your shoe size into the equation, to find your predicted height. How close is your prediction to your actual height?
3. Substitute your height into the equation to find your predicted shoe size. How close is it your prediction to your actual shoe size?
4. Use the equation to answer the following questions.
5. Calculate the shoe size of someone who is 61 inches tall. Is this interpolating or extrapolating?
6. Calculate the shoe size of someone who is 41 inches tall. Is this interpolating or extrapolating?
7. Calculate the shoe size of someone who is 81 inches tall. Is this interpolating or extrapolating?
8. Calculate the height of someone who has a shoe size of 8. Is this interpolating or extrapolating?
9. Calculate the height of someone who has a shoe size of 15. Is this interpolating or extrapolating?
10. Calculate the height of someone who has a shoe size of 5. Is this interpolating or extrapolating?
11. Research the relationship between women and men’s shoes sizes. How do you think the differences in the male and female shoe sizes may affect the conclusion you have reached? What could you do to improve your predictions?