C1 - Scatterplots and Trends

- graph data on a scatterplot.

- draw a line of best fit for a scatterplot.

- describe trends in the data.

- use line of best fit to interpolate and extrapolate.

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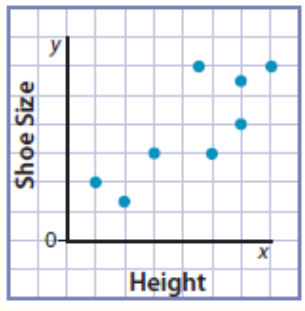
Graph a Scatterplot

Scatterplot: a graph of plotted points that shows the relationship between two data sets.

Example: Each dot represents one person's shoe size versus height.



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Activity: Explore a Linear Relationship (Text pg. 112-113)

- Record class results in a spreadsheet.

- After graphing by hand, also use technology *(Excel - Insert Scatter)* to graph.

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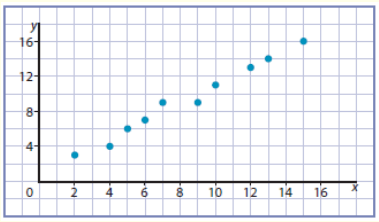
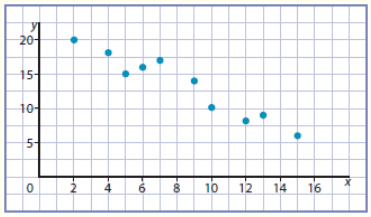
Describe Trends in Data

Trend: the general direction in which values in a data set tend to move.

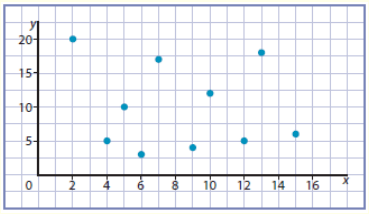
Positive Linear Trend



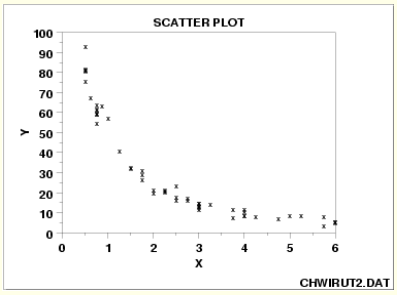
Negative Linear Trend



No Trend



Non-Linear Trend



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Describe a Trend (Board Work)

1. Sketch and describe a possible scatterplot that represents the value of a car vs. the age of a car.

2. Sketch and describe a possible scatterplot that represents the cost of fencing vs. the amount of fencing purchased.

3. Sketch and describe a possible scatterplot that represents the number of minutes per day a student spends texting vs. the height of the student.

Practice: Text pg. 99: 5,6

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Problem (Mini-boards)

To observe growth or behaviour patterns, scientists measure and tag birds and other animals. Mario measures the height and wingspan of 12 geese. He wonders if there is a trend in the relationship between the two variables that will allow him to make a reasonable prediction of the wingspan when he knows the height.

Height (cm)	77	84	105	95	106	82	88	90	102	90	84	98
Wingspan (cm)	129	140	176	155	176	140	149	151	175	148	138	161

a) Create a scatterplot of wingspan vs. height.
b) Describe the trend in the data and draw a line of best fit.
c) Use the graph to predict the wingspan of a goose that is 1m tall.
d) Use the graph to predict the height of a goose with a wingspan of 145cm.

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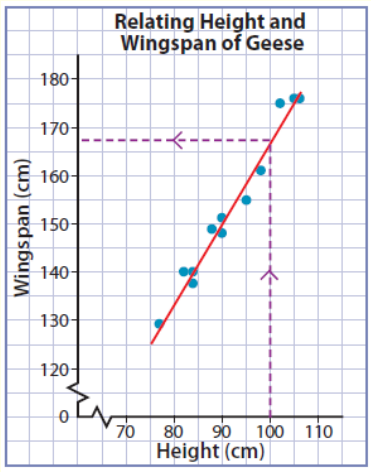
Interpolate and Extrapolate

Interpolate: estimate between numbers.

Extrapolate: estimate beyond numbers.

Examples using the graph provided.



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Practice

Partners on Mini-boards :

Text pg. 116: Your Turn Problem

Individual Practice:

Text pg. 117-119: 1, Choose two of 3-5 (Do one with Excel)

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