

Interpreting data from scatter plots (TARSOG)



Read specific values off each scatter plot, then quantify the trend, an outlier, or a prediction.

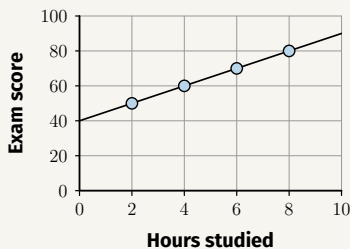
Name _____

Date _____

Reading a scatter plot

A scatter plot shows two measurements for the same items. Look for the **trend** (linear/non-linear) and **association** (positive/negative), judge the **relationship** strength from how closely points cluster around the line of best fit, and spot any **outliers**. A prediction within the plotted range is **interpolation**; beyond it is **extrapolation**, and is less reliable.

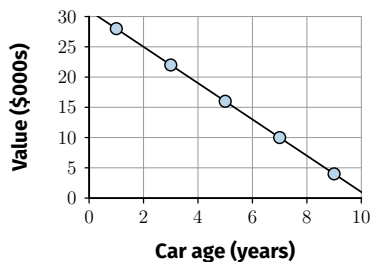
Worked example What score does the line of best fit predict for 5 hours of study? Is this interpolation or extrapolation?



Predicted score: $50 + 5 \times (5 - 2) = 65$.

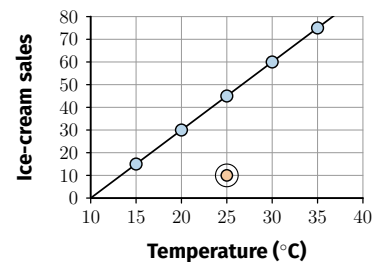
This is **interpolation** – 5 hours sits within the plotted range (2 to 8).

1. Using the line of best fit, estimate the car's value at 6 years old.



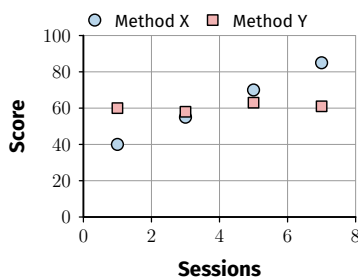
Working

2. Identify the outlier's coordinates and suggest a possible real-world cause.



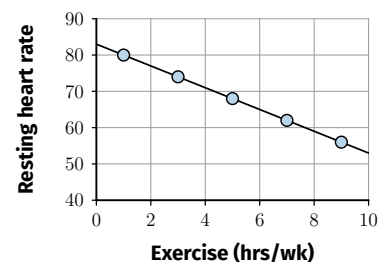
Working

3. Compare the strength of the relationship shown by Method X and Method Y.



Working

4. Which variable is explanatory and which is response? Predict the heart rate at 6 hours of exercise.



Working

Interpreting data from scatter plots (TARSOG) (continued)

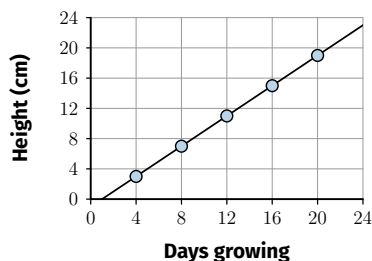


Read specific values off each scatter plot, then quantify the trend, an outlier, or a prediction.

Name _____

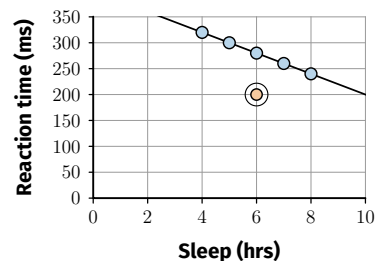
Date _____

5. Predict the plant's height at 24 days. Is this interpolation or extrapolation?



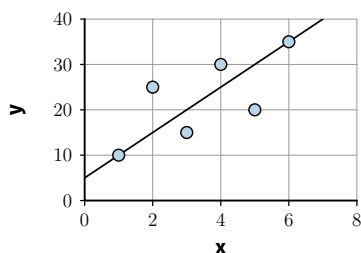
Working

6. Find the outlier's coordinates. By how much is its reaction time faster than the trend predicts?



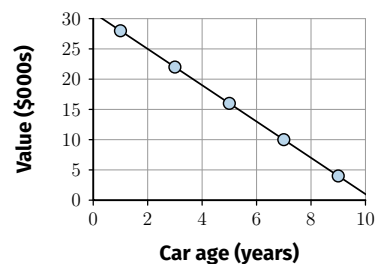
Working

7. Judge the strength (weak/moderate/strong) of this relationship. Justify your answer.



Working

8. Predict the car's value at (a) 4 years and (b) 15 years. Which is interpolation, and which prediction would you trust?



Working
