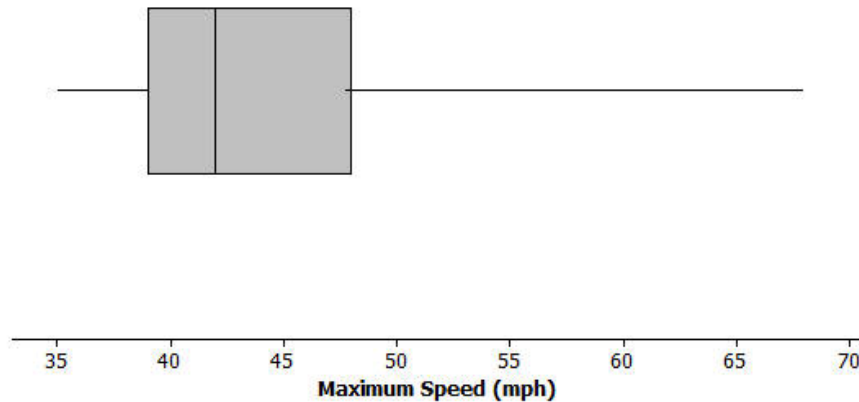


## Problem Set

1. The box plot below summarizes the maximum speeds of certain kinds of fish.



- Estimate the values in the five-number summary from the box plot.
  - The fastest fish is the sailfish at 68 mph, followed by the marlin at 50 mph. What does this tell you about the spread of the fish speeds in the top quarter of the box plot?
  - Use the five-number summary and the IQR to describe the speeds of the fish.
2. Suppose the interquartile range for the number of hours students spent playing video games during the school week was 10. What do you think about each of the following statements? Explain your reasoning.
- About half of the students played video games for 10 hours during a school week.
  - All of the students played at least 10 hours of video games during the school week.
  - About half of the class could have played video games from 10 to 20 hours a week or from 15 to 25 hours.
3. Suppose you know the following for a data set: The minimum value is 130, the lower quartile is 142, the IQR is 30, half of the data are less than 168, and the maximum value is 195.
- Think of a context for which these numbers might make sense.
  - Sketch a box plot.
  - Are there more data values above or below the median? Explain your reasoning.

4. The speeds for the fastest dogs are given in the table below.

Breed	Speed (mph)
Greyhound	45
African wild dog	44
Saluki	43
Whippet	36
Basanji	35
German shepherd	32
Vizsla	32
Doberman pinscher	30

Breed	Speed (mph)
Irish wolfhound	30
Dalmatian	30
Border collie	30
Alaskan husky	28
Giant schnauzer	28
Jack Russell terrier	25
Australian cattle dog	20

Data source: <http://www.vetstreet.com/our-pet-experts/meet-eight-of-the-fastest-dogs-on-the-planet>;  
<http://canidaepetfood.blogspot.com/2012/08/which-dog-breeds-are-fastest.html>

- Find the five-number summary for this data set, and use it to create a box plot of the speeds.
- Why is the median not in the center of the box?
- Write a few sentences telling your friend about the speeds of the fastest dogs.