Lesson 15: More Practice with Box Plots

Problem Set

1. The box plot below summarizes the maximum speeds of certain kinds of fish.
	1. Estimate the -number summary from the box plot.
	2. The fastest fish is the sailfish at mph followed by the marlin at mph. What does this tell you about the spread of the fish speeds in the top quarter of the plot?
	3. Use the -number summary and the IQR to describe the speeds of the fish.
2. Suppose you knew that the interquartile range for the number of hours students spent playing video games during the school week was . What do you think about each of the following statements? Explain your reasoning.
	1. About half of the students played video games for hours during a school week.
	2. All of the students played at least hours of video games during the school week.
	3. About half of the class could have played video games from to hours a week or from to hours.
3. Suppose you know the following for a data set: minimum value is , the lower quartile is , the IQR is , half of the data are less than , and the maximum value is .
	1. Think of a context for which these numbers might make sense.
	2. Sketch a box plot.
	3. 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) |  | Breed | Speed (mph) |
| Greyhound |  |  | Irish Wolfhound |  |
| African Wild Dog |  |  | Dalmatian |  |
| Saluki  |  |  | Border Collie  |  |
| Whippet |  |  | Alaskan Husky |  |
| Basanji |  |  | Giant Schnauzer |  |
| German Shepherd |  |  | Jack Russell Terrier |  |
| Vizsla |  |  | Australian Cattle Dog |  |
| Doberman Pinscher |  |  |  |  |

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>

* 1. Find the -number summary for this data set and use it to create a box plot of the speeds.
	2. Why is the median not in the center of the box?
	3. Write a few sentences telling your brother or sister about the speed of the fastest dogs.