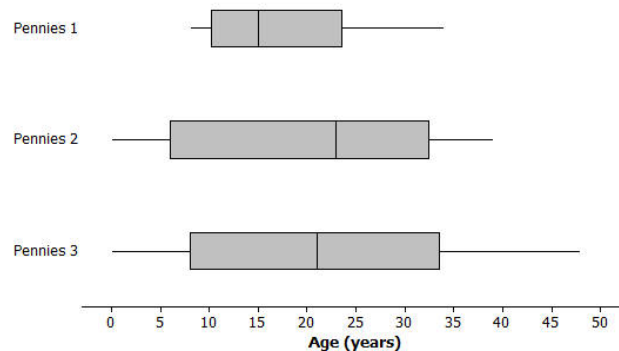


Problem Set

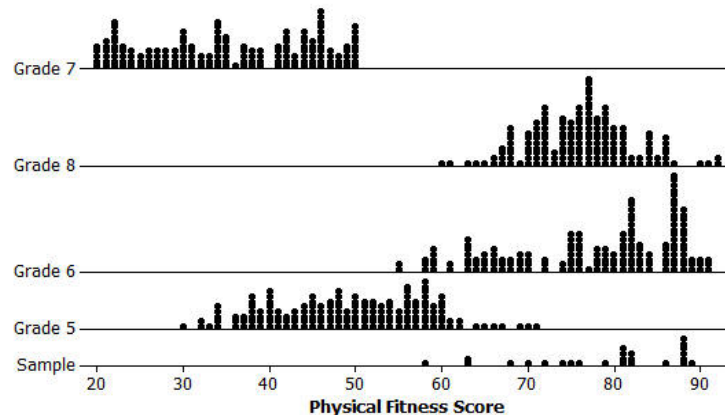
- Look at the distribution of years since the pennies were minted from Example 1. Which of the following box plots seem like they might not have come from a random sample from that distribution? Explain your thinking.

Box Plots of Three Random Samples of Penny Ages

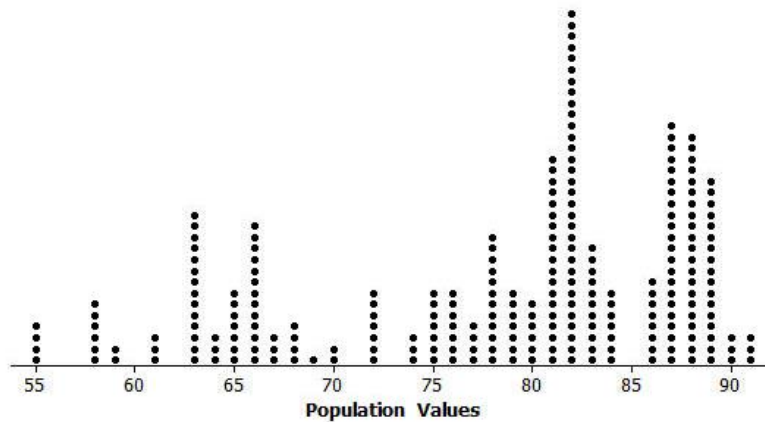


- Given the following sample of scores on a physical fitness test, from which of the following populations might the sample have been chosen? Explain your reasoning.

Dot Plots of Four Populations and One Sample

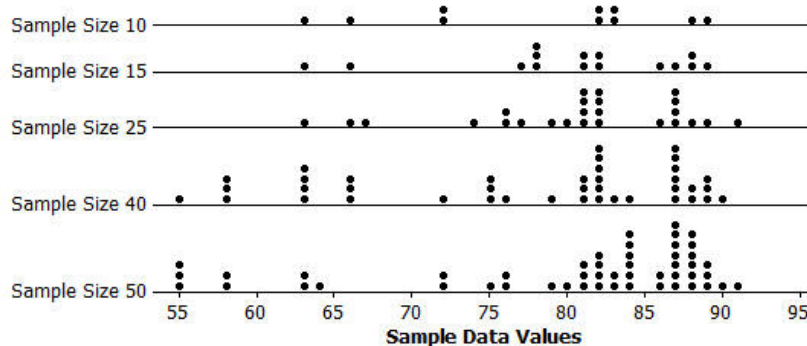


3. Consider the distribution below:



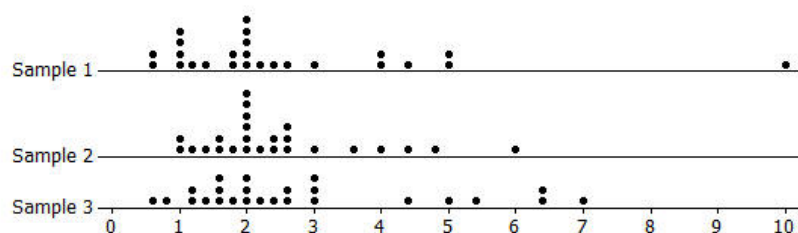
- What would you expect the distribution of a random sample of size 10 from this population to look like?
- Random samples of different sizes that were selected from the population in part (a) are displayed below. How did your answer to part (a) compare to these samples of size 10?

Dot Plots of Five Samples of Different Sizes



- Why is it reasonable to think that these samples could have come from the above population?
 - What do you observe about the sample distributions as the sample size increases?
4. Based on your random sample of prices from Exercise 6, answer the following questions:
- It looks like a lot of the prices end in 9. Do your sample results support that claim? Why or why not?
 - What is the typical price of the items in your sample? Explain how you found the price and why you chose that method.

5. The sample distributions of prices for three different random samples of 25 items from a grocery store are shown below.
- a. How do the distributions compare?

Dot Plots of Three Samples

- b. Thomas says that if he counts the items in his cart at that grocery store and multiplies by \$2.00, he will have a pretty good estimate of how much he will have to pay. What do you think of his strategy?