**RANDOM SAMPLES**

**TERMS TO KNOW:**

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| **TERM** | **DEFINITION** | **EXAMPLE** |
| **Population** |  |  |
| **Sample** |  |  |
| **Unbiased sample** |  |  |
| **Biased** **sample** |  |  |

***For each survey topic, determine which set represents the population and which represents a sample of the population.***

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| **SURVEY TOPIC**  | **SET A**  | **SET B**  |
| **dress code changes**  | The students in a middle school  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  | The seventh graders in the middle school  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  |
| **Favorite flavors of ice cream**  | The customers at an ice cream shop in the town  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  | The residents of a town   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  |

**Determine whether each sample is biased or unbiased. Explain.**

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| Casey surveyed the members of his soccer team to ask them what their favorite sport is. | An airline is conducting a survey to determine whether people prefer to check their luggage or carry it on. They ask every 10th person that walks into an airport. |
| Imani would like to approximate the number of students in her school with part-time jobs. She surveys the 28 students in her math class.  | An apartment complex manager wants to survey residents about the apartment maintenance service. A survey is sent to 100 randomly selected apartment numbers. |

**THE MEASURES OF CENTER & RANGE**

The mean, median, and mode are called **measures of center** because they describe the center of a set of data.

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| **TERM** | **DEFINITION** |
| **Mean** | the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_; the sum of the data divided by the number of pieces of data |
| **Median** | the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ number; the value appearing at the center of a sorted version of the list, or the mean of the two central values, if the list contains an even number of values List the numbers **IN ORDER** and then find the **MIDDLE** number.  |
| **Mode** | the number that appears \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**;** a data set can have NO MODE, 1 mode, or more than 1 mode. |

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| **Range**  | the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ between the greatest and least data values |

**PRACTICE: Find the mean, median, mode, and range of each set of data.**

**A marathon race was completed by 5 participants. These are their completion times in hours.**  2.7 8.3 3.5 5.1 4.9

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| MEAN | MEDIAN |
| MODE | RANGE |

**Points scored in the last 8 football games:** 42 35 12 20 30 18 21 30

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| --- | --- |
| MEAN | MEDIAN |
| MODE | RANGE |

**The speed in miles per hour of the last 12 cars to pass by a police officer running radar:** 68 65 55 74 60 62 72 50 62 66 68 70

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| --- | --- |
| MEAN | MEDIAN |
| MODE | RANGE |