The Shape of Data

Name: _____

Date: _____ Per: _____

1. Using the class data you've gathered, find the **relative frequency** of each bin—the ratio of data values in the bin to the total number of data values. Express the relative frequencies as decimals.

Station 1: Penny Toss

Distance	Relative Frequency

Station 2: Five Seconds

Time	Relative Frequency

Station 3: Rolling a Die

Number	Relative Frequency
1	
2	
3	
4	
5	
6	

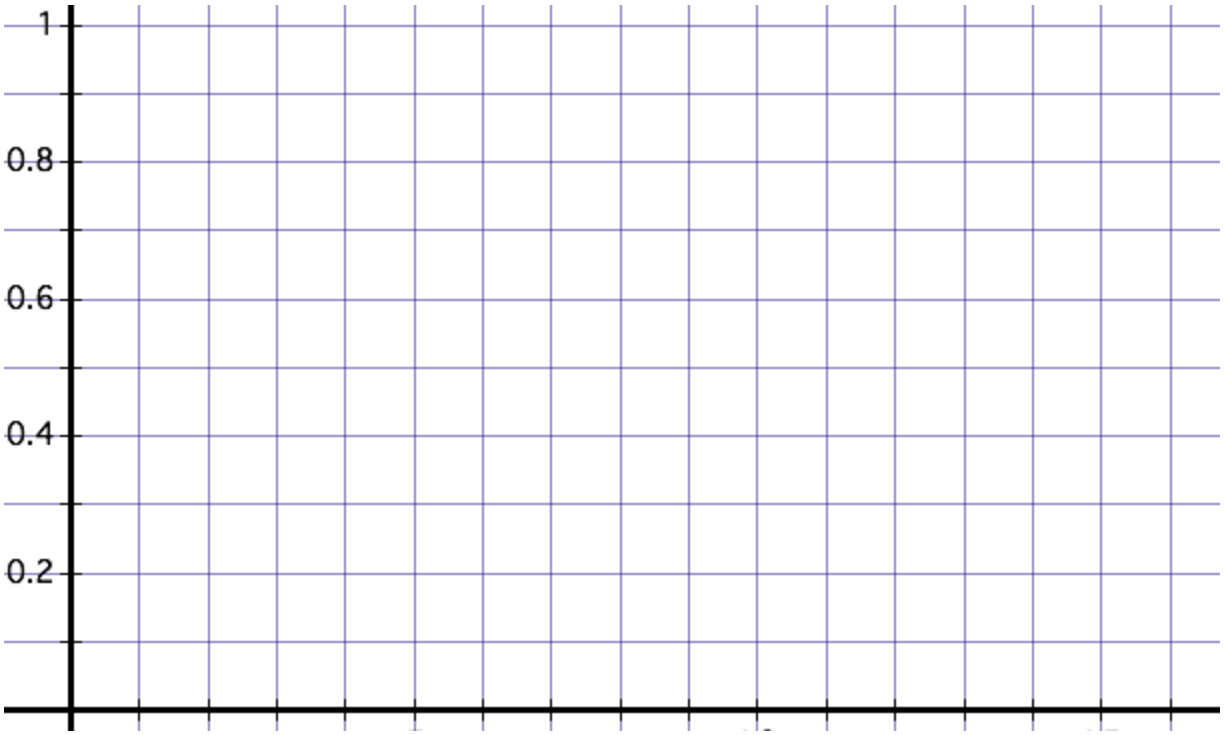
Entry Task: Student Height

Height	Relative Frequency
139 cm or less	
140 cm – 149 cm	
150 cm – 159 cm	
160 cm – 169 cm	
170 cm – 179 cm	
180 cm – 189 cm	
190 cm or more	

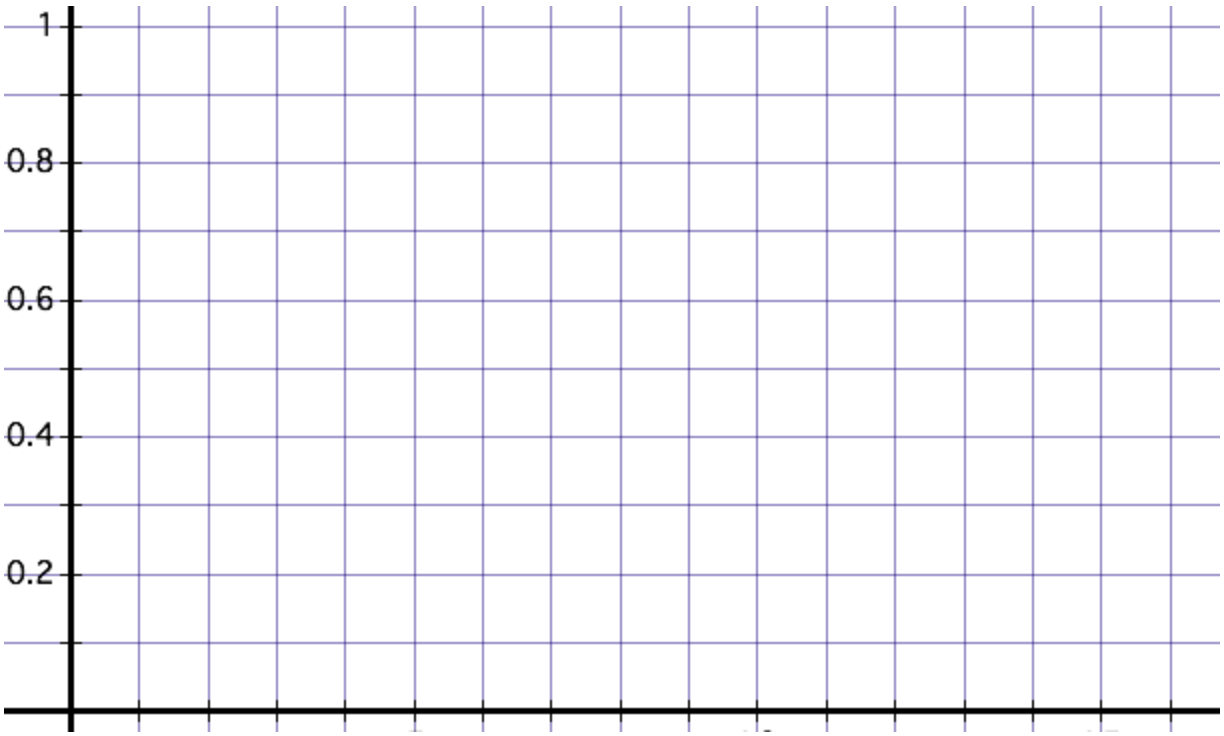
2. Using the tables, make a relative frequency histogram of each data set.

Station 1: Penny Toss

Station 2: Five Seconds



Station 3: Rolling a Die



Entry Task: Student Height

3. Explain why the sum of the relative frequencies for each data set is always 1.

4. Describe the shape of each data set. Look at the notes on the next page, and consider these questions:
    - Is the data distribution symmetric or skewed?
    - Is it single-peaked (unimodal), double-peaked (bimodal), or uniformly distributed?
    - Are there outliers?
    - Is the center better measured by the mean or median?
    - How spread out is the data, and how can you measure this variability?

Station 1: Penny Toss
Station 2: Five Seconds
Station 3: Rolling a Die
Entry Task: Student Height