

Probability Distributions and Frequency Tables

Today I Can

1. Make and use frequency tables and probability distributions.

Frequency Table

A data display that shows how often an item appears in a category.

Relative Frequency

The ratio of the frequency of the category to the total frequency.

- Relative frequency is often given as a percentage.

Example 1. The results of a survey of students' music preferences are organized in the frequency table below. Find the relative frequency for each of the following types of music.

Music Type	Rock	Hip Hop	Country	Alternative	Classical	Other
Frequency	10	7	8	5	6	4

(a) Rock

(b) Classical

(c) Hip Hop

(d) Country

Example 2. A student conducts a probability experiment by tossing 3 coins at the same time. The results of each possible outcome, along with their frequencies, are shown below. Find the probability of each event.

Coin Toss Result	HHH	HHT	HTT	HTH	THH	THT	TTH	TTT
Frequency	5	7	9	6	2	9	10	2

(a) Exactly 2 tails occur

(b) No tails occur

Probability Distribution

A listing of each possible outcome along with its associated probability.

- Often times shown in a frequency table.

Example 3. In a recent archery competition, 50 archers show 6 arrows each at a target. Three archers hit no bulls-eyes, 5 hit one bulls-eyes, 7 hit two bulls-eyes, 7 hit three bulls-eyes, 11 hit four bulls-eyes, 10 hit five bulls-eyes, and 7 hit six bulls-eyes.

Fill in the table to create a probability distribution for the number of bulls-eyes each archer hit.

Number of Bulls-Eyes							
Frequency							
Probability							