Time Frame: 50 minutes

Subject Matter: Empirical Probability

Anticipatory Set:

In tossing a coin and rolling a die, what is the probability of obtaining a head and a 6?

Objective: TSWBAT find the probability of an event using empirical probability.

Standards: DA – 1.1, 1.2 & 1.5

Materials: Textbook, O.H.P. & Transparencies

**TELL ME**

Presentation of Information:

Definition of Terms:

**SHOW ME**

Example 1: Suppose that a researcher asked 25 people if they liked the taste of a new soft drink. The response were classified as “yes”, “no” or “undecided”. The results were categorized in a frequency distribution, as shown.

|  |  |
| --- | --- |
| Response | Frequency |
| Yes  No  Undecided | 15  8  2 |

Total 25

Find the following probabilities.

1. Of obtaining a positive response
2. Of obtaining a negative response
3. Of obtaining an undecided response

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**LET ME TRY**

1. In a sample of 50 people, 21 had type O blood, 22 had type A blood, 5 had type B blood, and 2 had type AB blood. Find the following probabilities.
   1. A person has type O blood
   2. A person has type A or type B blood
   3. A person has neither type A or type B blood
   4. A person does not have type AB blood
2. Hospital records indicated that maternity patients stayed in the hospital for the number of days shown in the distribution.

|  |  |
| --- | --- |
| Number of Days Stayed | Frequency |
| 3  4  5  6  7 | 15  32  56  19  5 |

Total 127

Find these probabilities.

1. A patient stayed exactly 5 days.
2. A patient stayed less than 6 days.
3. A patient stayed at most 4 days.
4. A patient stayed at least 5 days.

Homework:

In a college class of 250 graduating seniors, 50 have jobs waiting, 10 are going to medical school, 20 are going to law school, and 80 are going to various other kinds of graduate schools. Select one graduate at random.

1. What is the probability that the student is going to graduate school?
2. What is the probability that the student is going to medical school?
3. What is the probability that the student will have to start paying back his deferred student loans after 6 months (i.e., does not continue in school)?