Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Class:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Experimental Probability (Compound Events)

Vocabulary:

Compound Event – an event that includes two or more simple events (can include events that depend on each other or are independent

-------------------------------------------------------------------------------------------------------------------------------

A food trailer serves chicken and records the order size and sides on their orders as show in the table. What is the experimental probability that the next order is for 3-pieces with coleslaw?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Green Salad | Mac & Cheese | French Fries | Coleslaw |
| 2 pieces | 33 | 22 | 52 | 35 |
| 3 pieces | 13 | 55 | 65 | 55 |

**Step (1): Find the total number of trials or orders (sample space)**

33 + 22 + 52 + 35 + 13 + 55 + 65 + 55 = 330

**Step (2): Find the number of orders that are for 3 pieces with coleslaw**: 55

**Step (3): Find the experimental probability**

P(3 pieces + slaw) = number of 3 piece + slaw = 55 = 1

Total number of orders 330 6

The experimental probability that the next order is for 3 pieces of chicken with coleslaw is 1/6

1. Drink sales for an afternoon at the school carnival were recorded in the table. What is the experimental probability that the next drink is a small cocoa?

|  |  |  |  |
| --- | --- | --- | --- |
|  | Soda | Water | Cocoa |
| Small | 77 | 98 | 60 |
| Large | 68 | 45 | 52 |

Solve the experimental probability for questions 2 – 5 using the following chart:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Range 10 – 21 | Range 22 – 39 | Range 40 – 50 | Range 50 + |
| Male | 44 | 66 | 32 | 53 |
| Female | 36 | 50 | 45 | 74 |

1. A dentist has 400 male and female patients that range in ages from 10 years old to 50 years old and up as shown in the table. What is the experimental probability that the next patient will be female and in the age range 22 – 39?
2. What is the experimental probability that the next patient will be male and in the age range 40 – 50?
3. What is the experimental probability that the next patient will be male and in the age range 10 – 21?
4. What is the experimental probability that the next patient will be female and in the age range 50+?

The school store sells spiral notebooks in four colors and three different sizes. The table shows the sales by size and color for 400 notebooks. (Questions 6 – 10)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Red | Green | Blue | Yellow |
| 100 Pages | 55 | 37 | 26 | 12 |
| 150 Pages | 60 | 44 | 57 | 27 |
| 200 Pages | 23 | 19 | 21 | 19 |

1. What is the experimental probability that the next customer buys a red notebook with 150 pages?
2. What is the experimental probability that the next customer buys any red notebook?
3. What is the experimental probability that the next customer buys a blue notebook with either 150 or 200 pages?
4. What is the experimental probability that the next customer buys a yellow or green notebook with 200 pages?
5. What is the experimental probability that the next customer buys any green notebook?