1. Twelve to 36 hours after a fall picnic party in Ford park some of the participants experienced moderate to severe diarrhea consistent with a salmonella infection. In outbreaks like this, however, people may not remember exactly what they ate, and the same serving utensils may have been used for more than one food item, causing contamination.

Use the information in table 1 below to answer questions 1 to 5.

**Table 1** Number of people who **ATE** Number of people who **DID NOT EAT**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Food item | **Ill** | **Not ill** | **Total** |  | **Ill** | **Not ill** | **Total** |
| **Potato salad** | 30 | 20 | 50 |  | 18 | 32 | 50 |
| **Hamburgers** | 55 | 15 | 70 |  | 14 | 36 | 50 |
| **Ice cream** | 50 | 10 | 60 |  | 2 | 38 | 40 |
| **Punch** | 28 | 42 | 70 |  | 15 | 15 | 30 |

**Please match each of the following questions with the appropriate calculation below.**

1. What is the attack “rate” in those who ate hamburgers?

1. What is the attack “rate” in those who ate ice cream?
2. What is the attack “rate” among those who did not eat hamburgers?
3. What is the attack “rate” among those who did not eat ice cream?

**CALCULATIONS:**

|  |  |  |  |
| --- | --- | --- | --- |
| **A** | (14/36) X 100 = 38.9% | **F** | (2/40) x 100 = 5.0% |
| **B** | (14/50) x 100 = 28.0% | **G** | (50/60) x 100 = 83.3% |
| **C** | (14/70) x 100 = 20.0% | **H** | (50/70) x 100 = 71.4% |
| **D** | (2/38) x 100 = 5.3% | **I** | (55/85) x 100 = 64.7% |
| **E** | (2/60) x 100 = 3.3% | **J** | (55/70) x 100 = 78.6% |

1. What food item(s) is (are) the most likely vehicle(s) for the salmonella infection?
   1. Ice cream
   2. Hamburgers
   3. Hamburgers and ice cream
2. Foothill College cafeteria served beef and potato salad for lunch. In the next few

hours, a substantial number of students were treated for gastrointestinal symptoms, including nausea, vomiting and diarrhea.

Use the information in Tables 2 and 3 to answer the questions below.

**Table 2.** Total number of people who ate each specified combination of food items

|  |  |  |
| --- | --- | --- |
|  | Ate potato salad | Did **not** eat potato salad |
| Ate beef | 140 | 40 |
| Did not eat beef | 90 | 30 |

**Table 3.** Total number of people who ate each specified combination of food items and **who later became sick.**

|  |  |  |
| --- | --- | --- |
|  | Ate potato salad | Did **not** eat potato salad |
| Ate beef | 120 | 35 |
| Did not eat beef | 6 | 2 |

**Please match each of the following questions with the appropriate calculation below.**

1. What is the attack “rate” in students who ate beef but did not eat potato salad?

1. It was determined that the beef was the source of the infection.

What was the risk (attack “rate”) among those exposed?

1. What was the risk (attack “rate”) among those not exposed to beef?
2. What was the rate ratio (relative risk) among those exposed as

compared to those not exposed?

**CALCULATIONS:**

1. 2/30
2. 6/90
3. (6+2)/(90+30)
4. 35/40
5. 120/140
6. (120+35)/(140+40)
7. (120/140) / (6/90) = 12.85
8. [(120+35)/(140+40)] / [(6+2)/(90+30)] = 12.92