**Algebra 1 Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Practice/Homework with Two-Way Frequency Tables Date\_\_\_\_\_\_\_\_\_\_\_**

|  |  |  |  |
| --- | --- | --- | --- |
| Gym Membership Information | | | |
|  | Under 15 | **Over 15** | Total |
| **Boys** |  | 23 | 38 |
| **Girls** | 19 |  |  |
| Total |  |  | 69 |

A gym has 69 members.

* 38 of these members are boys.
* There are 19 members who are girls and under 15 years old.
* There are 23 members who are boys and over 15 years old.

Complete the Two-Way Frequency Table.

**Use the table above, answer the following questions about the gym.**

1. How many gym members are over the age of 15? \_\_\_\_\_\_\_\_\_
2. How many girls are members of the gym? \_\_\_\_\_\_\_\_\_
3. What percentage of members are boys under 15? \_\_\_\_\_\_\_\_\_
4. What percentage of members are over 15? \_\_\_\_\_\_\_\_\_
5. Who is more likely to join the gym? Why? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Abigail asked students in grades 9 and 10 which pet they preferred and recorded her answers in the

Two-Way Frequency table below.

* Complete the marginal frequency values for the Two-Way Frequency Table.
* Construct a Relative Frequency Table using the information in the Two-Way Frequency table.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Abigail’s Survey Responses** | | | | | |
| **Grade** | **Preferred Pet** | | | | |
| **Bird** | **Dog** | **Cat** | **Fish** | **Totals** |
| **9** | 20 | 14 | 22 | 34 |  |
| **10** | 6 | 16 | 16 | 20 |  |
| **Totals** |  |  |  |  | 148 |

**Two-Way Frequency Table Relative Frequency Table**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Abigail’s Survey Responses** | | | | | |
| **Grade** | **Preferred Pet** | | | | |
| **Bird** | **Dog** | **Cat** | **Fish** | **Totals** |
| **9** |  |  |  |  |  |
| **10** |  |  |  |  |  |
| **Totals** |  |  |  |  |  |

* Construct a Conditional Relative Frequency distribution for each situation below.
  + Fill in only the appropriate information below – some cells might be blank.

**Conditional Relative Frequency Table Conditional Relative Frequency Table**

**(with respect to the number of students responding (with respect to the number of students responding**

**that their preferred pet was a bird) to the survey with regard to their grade)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Abigail’s Survey Responses** | | | | | |
| **Grade** | **Preferred Pet** | | | | |
| **Bird** | **Dog** | **Cat** | **Fish** | **Totals** |
| **9** |  |  |  |  |  |
| **10** |  |  |  |  |  |
| **Totals** |  |  |  |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Abigail’s Survey Responses** | | | | | |
| **Grade** | **Preferred Pet** | | | | |
| **Bird** | **Dog** | **Cat** | **Fish** | **Totals** |
| **9** |  |  |  |  |  |
| **10** |  |  |  |  |  |
| **Totals** |  |  |  |  |  |

You randomly survey students in a school about whether they will dress up for Halloween this year.

The results are listed below:

* Grade 6 Students: 28 dress up, 10 not dress up
* Grade 7 Students: 19 dress up, 16 not dress up
* Grade 8 Students: 7 dress up, 10 not dress up
* Construct a Two-Way Frequency Table using the results from the survey.
* Construct a Relative Frequency Table using the data in the Two-Way Frequency table.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Halloween Survey Results**  **Two-Way Frequency Table** | | | | |
|  | **Grade**  **6** | **Grade**  **7** | **Grade**  **8** | **Totals** |
| **Dress Up** |  |  |  |  |
| **Not Dress Up** |  |  |  |  |
| **Totals** |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Halloween Survey Results**  **Relative Frequency Table** | | | | |
|  | **Grade**  **6** | **Grade**  **7** | **Grade**  **8** | **Totals** |
| **Dress Up** |  |  |  |  |
| **Not Dress Up** |  |  |  |  |
| **Totals** |  |  |  |  |

**Use the tables above, answer the following questions about the survey results.**

1. How many students were surveyed? \_\_\_\_\_\_\_\_
2. How many students surveyed indicated that they will not dress up? \_\_\_\_\_\_\_\_
3. What percentage of students surveyed indicated that they will dress up? \_\_\_\_\_\_\_\_
4. What percent of the Grade 6 students surveyed will dress up? \_\_\_\_\_\_\_\_
5. Is there a relationship between a student’s grade level and whether or not they will dress up? \_\_\_\_\_\_\_\_

**Do you remember how to find an interquartile range?**

Below is a list of values that represent the number of minutes it took seven COAL students to complete a test. Find the interquartile range (IQR) for this data set.

33 27 36 42 22 29 30 IQR = \_\_\_\_\_\_\_\_

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Adoption Data** | | | | | | |
|  | **January** | **February** | **March** | **April** | **May** | **Total** |
| **Cats** | 20 | 14 | 22 | 34 | 36 | 126 |
| **Dogs** | 6 | 16 | 16 | 20 | 16 | 74 |
| **Total** | 26 | 30 | 38 | 54 | 52 | 200 |

The two-way frequency table below shows the adoption data for an animal shelter for the first five months of a year.

* Find the interquartile range (IQR) for the number of cats adopted in the first five months. \_\_\_\_\_\_\_\_
* Find the interquartile range (IQR) for the number of dogs adopted in the first five months. \_\_\_\_\_\_\_\_

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Adoption Data** | | | | | | |
|  | **January** | **February** | **March** | **April** | **May** | **Total** |
| **Cats** |  |  |  |  |  |  |
| **Dogs** |  |  |  |  |  |  |
| **Total** |  |  |  |  |  |  |

* What is the difference between the interquartile ranges of the number of cats adopted \_\_\_\_\_\_\_\_

and the number of dogs adopted during the first five months?

* Create a conditional relative frequency table for this data with regard to months. Explain the values you used in your table.