**Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Two-Way Frequency Tables Worksheet**

1. **A survey of 20 adults asked “which of the following is your favorite type of car: SUV, Sedan, or Truck?” Each adult’s gender and response is recorded in the table below.**

|  |  |
| --- | --- |
| **TYPE OF CAR** | **GENDER** |
| SEDAN | FEMALE |
| SUV | FEMALE |
| TRUCK | MALE |
| SUV | FEMALE |
| SUV | FEMALE |
| SEDAN | FEMALE |
| SUV | MALE |
| TRUCK | MALE |
| TRUCK | FEMALE |
| SEDAN | MALE |
| SUV | MALE |
| SEDAN | FEMALE |
| TRUCK | MALE |
| SUV | FEMALE |
| SUV | FEMALE |
| SEDAN | MALE |
| SUV | MALE |
| SEDAN | FEMALE |
| TRUCK | MALE |
| SEDAN | FEMALE |

1. **Create a two-way frequency table that summarizes the data from the table. Include marginal frequencies and interpret the joint frequencies of the table.**
2. **Create a two-way relative frequency table which displays conditional frequencies for gender.**
3. **A survey of 18 people asked “of Spring, Summer, Fall, and Winter, which is your favorite season?” Each person’s occupation and response is listed below.**

|  |  |
| --- | --- |
| **SEASON** | **GENDER** |
| SPRING | ARCHITECT |
| SUMMER | TEACHER |
| WINTER | PHARMACIST |
| SPRING | ARCHITECT |
| FALL | PHARMICIST |
| SUMMER | TEACHER |
| SUMMER | TEACHER |
| SPRING | ARCHITECT |
| WINTER | TEACHER |
| SUMMER | ARCHITECT |
| FALL | PHARMACIST |
| SPRING | PHARMACIST |
| FALL | PHARMACIST |
| SIMMER | TEACHER |
| WINTER | ARCHITECT |
| FALL | PHARMACIST |
| SUMMER | TEACHER |
| FALL | ARCHITECT |

1. **Create a two-way frequency table that summarizes the data from the table. Include marginal frequencies and interpret the joint frequencies of the table.**
2. **Create a two-way relative frequency table that summarizes the data which displays conditional frequencies for occupation.**
3. **In a survey 200 people were polled at a local shopping center about spending free time playing sports, watching a movie, or reading a book. The relative frequency table below displays the results.**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **MOVIE** | **SPORTS** | **READ** |
| **MALE** | **0.25** | **0.30** | **0.10** |
| **FEMALE** | **0.15** | **0.05** | **0.15** |

1. **How many males surveyed preferred playing sports?**
2. **How many more females than males preferred watching a movie?**
3. **How many people surveyed preferred to read a book?**
4. **How many females were surveyed?**
5. **A high school polled students for their favorite subject in school; the 3125 students participated in the survey.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **English** | **Math** | **History** | **Science** |
| **Freshmen** | **0.07** | **0.06** | **0.11** | **0.09** |
| **Sophomores** | **0.12** | **0.05** | **0.06** | **0.02** |
| **Juniors** | **0.05** | **0.10** | **0.02** | **0.03** |
| **Seniors** | **0.06** | **0.09** | **0.03** | **0.04** |

1. **How many students like history?**
2. **How many students like science?**
3. **How many more students like English than Science?**
4. **How many students like Math and science combined?**
5. **How many seniors were polled?**
6. **How many freshmen were polled?**
7. **Create a frequency table with the given data.**

**A public opinion survey explored the relationship between age and support for increasing the minimum wage. The results are found in the following two-way frequency table.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **For** | **Against** | **No Opinion** | **TOTAL** |
| **Ages 21-40** |  | 20 | 5 | 50 |
| **Ages 41-60** | 30 |  | 15 |  |
| **Over 60** | 50 | 20 |  | 75 |
| **TOTAL** |  | 70 | 25 | 200 |

1. **Fill in the missing data to the table.**
2. **Create a two-way frequency table that summarizes the data from the table. Include marginal frequencies and interpret the joint frequencies of the table.**
3. **Out of the people that have no opinion, what percentage is over 60 years old?**
4. **What percentage of people is for increasing minimum wage?**
5. **How many people over 60 are against increasing the minimum wage?**
6. **For ages 21-60 how many were not against increasing the minimum wage?**
7. **What percent of people over 60 are against or have no opinion?**