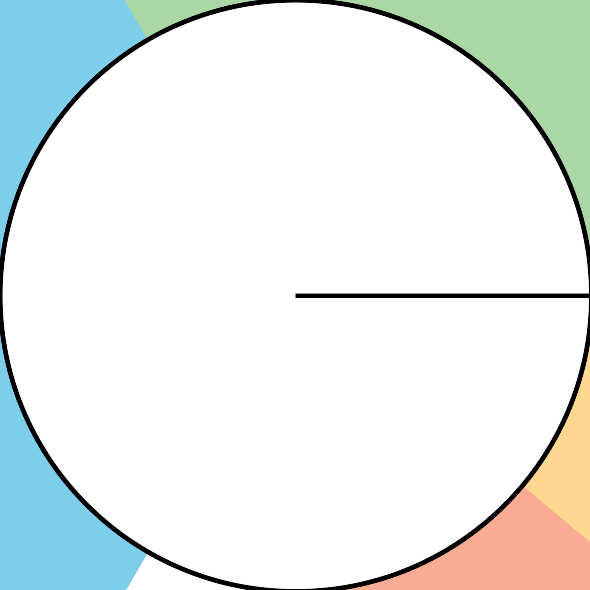
## Lesson 3: Associations and Relative Frequency Tables

* Let’s explore relative frequency tables

### 3.1: Estimation

What percentage of the graph is labeled C?



1. Record an estimate that is:

|  |  |  |
| --- | --- | --- |
| * too low | * about right | * too high |
|  |  |  |

1. Explain your reasoning.

### 3.2: Relative Frequency Tables

The relative frequency tables display data collected from 230 students.

|  |  |  |  |
| --- | --- | --- | --- |
|  | 1. participates in afterschool activity | 1. no afterschool activity | 1. total |
| 1. arrives home within 2 hours of school dismissal | 1. 3% | 1. 40% | 1. 43% |
| 1. arrives home 2 or more hours after school dismissal | 1. 42% | 1. 15% | 1. 57% |
| 1. total | 1. 45% | 1. 55% | 1. 100% |

* 1. What percentage of students participate in after-school activities? How many students participate in after-school activities?
  2. What percentage of students arrive home 2 or more hours after dismissal? How many students arrive home 2 or more hours after school dismissal?

|  |  |  |  |
| --- | --- | --- | --- |
|  | 1. aspiring professional athlete | 1. aspiring STEM career | 1. total |
| 1. prefer physical education | 1. 77% | 1. 23% | 1. 100% |
| 1. prefer math | 1. 18% | 1. 82% | 1. 100% |

* 1. What percentage of students who prefer math aspire to have a career in STEM?
  2. What percentage of students who prefer physical education aspire to have a career in STEM?
  3. Are these two percentages close?
  4. Is there evidence of an association between students’ career aspirations and subject preference? Explain your reasoning.

|  |  |  |
| --- | --- | --- |
|  | 1. 9th grade | 1. 12th grade |
| 1. curfew | 1. 95% | 1. 90% |
| 1. no curfew | 1. 5% | 1. 10% |
| 1. total | 1. 100% | 1. 100% |

* 1. Of the students in 12th grade, what percentage have a curfew?
  2. Of the students in 9th grade, what percentage have a curfew?
  3. Is there evidence of an association between students’ grade level and whether they have a curfew? Explain your reasoning.

### 3.3: Associate Your Variables

1. Invent a pair of variables that you think will have an association. Explain your reasoning.
2. Invent a pair of variables that you think will not have an association. Explain your reasoning.



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