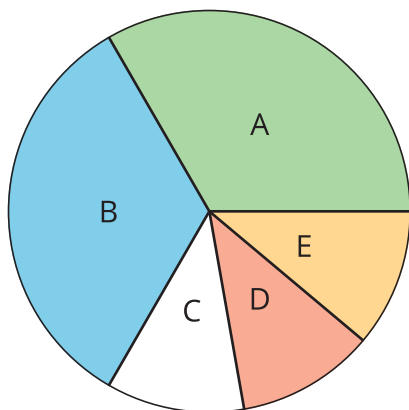


# Associations and Relative Frequency Tables

Let's explore relative frequency tables.

## 3.1 Estimate: Graph Percentage

What percentage of the graph is labeled C?



1. Record an estimate that is:

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

2. Explain your reasoning.

## 3.2 Relative Frequency Tables

The relative frequency tables display data collected from 230 students.

1.

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

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

2.

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

- a. What percentage of students who prefer math aspire to have a career in STEM?
- b. What percentage of students who prefer physical education aspire to have a career in STEM?
- c. Is there evidence of an association between students' career aspirations and subject preference? Explain your reasoning.

3.

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

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

### 3.3 Associate Your Variables

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