

1. After 20 years, the Starken's school cafeteria wants to change their dessert menu. They normally serve about 1,400 students each day, but decide to randomly ask 200 students what they prefer. The data from the five days of sampling is below.

Day	Cake	Cookies	Donuts	Ice Cream	Pie	Pudding	Total
Mon.	7	4	7	10	6	6	40
Tues.	9	3	6	8	6	8	40
Wed.	11	4	4	11	5	5	40
Thurs.	8	4	6	10	7	5	40
Friday	10	5	5	11	5	4	40
Total	45	20	28	50	29	28	200

- A. What is the most popular dessert? Ice Cream
- B. Based on this information, approximately how many cakes should they prepare each day?

The sample was 45 out of 200 and $200 \times ? = 1,400$. $200 \times 7 = 1,400$ so $45 \times 7 = 315$ cakes

- C. About what percent of the people want cookies? 10%
2. Frankfurt Middle School held their yearly presidential election. The staff did not have a chance to total the 1,200 votes, but the principal wanted to know who won. He decided to randomly pick 150 paper ballots. There were three candidates and the results of his sample are shown below.

	DERECK RICH	JULIA VOP	DIANA ZEAK	TOTAL
VOTES	41	76	33	150

- A. Write at least two inferences the principal can make about Julia Vop? She should win.

She will probably get half of the votes. She should win by a large margin.

- B. Approximately how many total votes will Dereck Rich and Diana Zeak receive combined?

Combined they should receive half of the votes, which would equal 600 votes.

3. There are 9,000 adults living in the town of Mercure. In a random sample, 78 out of 300 adults said they sleep at least 7 hours everyday. Based on these results, approximately how many adults in the town of Mercure sleep more than 7 hours a day?

$30 \times 300 = 900$ so $30 \times 78 = 2,340$ adults sleep at least 7 hours per day.

4. In a random sample, 36 out of 100 students at Douglas Elementary School said they prefer hamburgers for lunch. How many hamburgers should the cafeteria prepare if there are 1,300 students?

$13 \times 100 = 1,300$ so $13 \times 36 = 468$ hamburgers should be prepared.