

Statistics
Chapter 11 Practice

1. A polling agency takes a sample of 1500 American citizens from a list of tax returns and asks them if they are lactose intolerant. **12%** say yes. This is interesting, since it has been shown that **15%** of the population is lactose intolerant.

$12\% = \underline{\hspace{2cm}}$ $15\% = \underline{\hspace{2cm}}$

Population:

Sampling frame:

Sample:

2. A random sample of 1000 people who signed a card saying they intended to quit smoking were contacted a year after they signed the card. It turned out that 210 (21%) of the sampled individuals had not smoked over the past six months.

$21\% = \underline{\hspace{2cm}}$

Population =

Sampling frame =

Sample =

Parameter of interest =

3. On Tuesday, the bottles of tomato ketchup filled in a plant were supposed to contain an average of **14** ounces of ketchup. Quality control inspectors sampled 50 bottles at random from the day's production. These bottles contained an average of **13.8** ounces of ketchup.

$14 = \underline{\hspace{2cm}}$ $13.8 = \underline{\hspace{2cm}}$

Population:

Sample:

Sampling frame:

4. A researcher wants to find out which of two pain relievers works better. He takes 100 volunteers and randomly gives half of them medicine #1 and the other half medicine #2. **17%** of people taking medicine 1 report improvement in their pain and **20%** of people taking medicine #2 report improvement in their pain.

$17\% = \underline{\hspace{2cm}}$ $20\% = \underline{\hspace{2cm}}$

Population:

Sampling frame:

5. Take a SRS of 5 from the following list. Clearly explain and show your process.

Smith	Jones	Holloway	61424	20419	86546	00517
DeNizzo	David	Adams	90222	27993	04952	66762
Schaefer	Gray	Capito	50349	71146	97668	86523
Meyers	Gingrich	Card	85676	10005	08216	25906
Dietrich	Moreland	Hall				
Walsh	Whitter	Jordan				

6. We want to take an accurate sample of JDHS students. There are 158 freshman, 142 sophomores, 152 juniors, and 138 seniors. Explain clearly how you would take a stratified sample.
7. Dairy inspectors visit farms unannounced and take samples of the milk to test for contamination. If the milk is found to contain dirt, antibiotics, or other foreign matter, the milk will be destroyed and the farm reinspected until purity is restored. Would a cluster sample be appropriate for selecting farms for inspection? If so, explain how it would be done. If not, explain why it is not appropriate.

Consider each of these situations. Do you think the proposed sampling method is appropriate?

8. We want to know what percentage of local doctors accept Medicaid patients. We call the offices of 50 doctors randomly selected from local Yellow Page listings.
9. We want to know what percentage of local businesses anticipate hiring additional employees in the upcoming month. We randomly select ap age in the Yellow Pages and call every business listed there.
10. We want to know if there is neighborhood support to turn a vacant lot into a playground. We spend a Saturday afternoon going door-to-door in the neighborhood, asking people to sign a petition.
11. We want to know if students at our college are satisfied with the selection of food available on campus. We go to the largest cafeteria on campus and interview every 10th person in line.