

Sec 10.1

A normal distribution has mean μ and standard deviation σ .

Find the indicated probability for a randomly selected x -value from the distribution.

1. $P(x \geq \mu + \sigma)$
2. $P(x \geq \mu - 2\sigma)$
3. $P(x \leq \mu - 2\sigma)$
4. $P(\mu - 2\sigma \leq x \leq \mu + 2\sigma)$

A normal distribution has a mean of 24 and a standard deviation of 3. Find the probability that a randomly selected x -value from the distribution is in the given interval.

5. between 18 and 27
6. between 21 and 33
7. between 19 and 25
8. at least 27
9. at most 17

Sec 10.3

Identify the type of sample described.

1. You list all the counties in Pennsylvania and choose every third county.
2. You distribute questionnaires in the cafeteria and use only the questionnaires that are returned.
3. You ask all of the players on your baseball team whether they plan to attend the school dance.
4. You randomly select four students from each table in the cafeteria.
5. You divide all the students at a university into commuting students and campus-dwelling students, and then you randomly select all the students from the commuting group.

Identify the method of data collection each situation describes.

6. A student researcher records whether people at a restaurant leave a tip for their server.
7. A scientist provides natural light to 50 plants and fluorescent light to 50 plants in a study. The scientist then compares the plant growths after one week to determine which light is better.
8. A teacher asks the students in her fifth-period class how many siblings they have in their immediate family so that she can estimate the number of siblings for all her students.

Choose from:

- experiment
- observational
- convenience
- systematic
- self-selected
- stratified
- cluster
- survey

Sec 10.5

- The numbers of words per text message in a random sample of 30 text messages are shown in the table.

Number of Words Per Text Message									
3	10	9	12	21	17	4	6	18	2
10	3	9	12	5	24	19	4	1	7
5	11	14	6	2	4	14	6	9	12

- Estimate the population mean μ .
- Estimate the population proportion ρ of text messages that contain more than 12 words.
- Estimate the population proportion ρ of text messages that contain less than five words.

Sec 10.6

- A randomized comparative experiment tests whether pet therapy affects the mood scores of hospital patients. The mood scores range from 1 to 10, with scores close to 10 indicating a good mood. The control group has eight patients and the treatment group, which receives the pet therapy, has eight patients. The table shows the results.

	Mood Score							
Control Group	1	4	2	3	8	5	4	2
Treatment Group	3	9	4	7	3	6	2	9

- Find the mean score of the control group.
- Find the mean score of the treatment group.
- Find the experimental difference of the means.
- Display the data in a double dot plot.
- What can you conclude?