

Go over all class worksheets FIRST!! They are your BEST resources.....

Also: There will be a modest sized vocab part on this test. Please review your vocab.

Additional practice:

Mean, median, mode, box and whiskers

p. 845(1,3 – 6)

** practice quiz from textbook website available

Review Packet HW: still online if you need it...

Sec 11.2 (10 – 16even, 22)

Sec 11.3 (6 – 28 even)

Sec 11.4 (4 – 6 even, 14)

Combinations/ Permutations/FCP

p. 827(1 – 3)

p. 848(4 – 8)


** practice quiz from textbook website available

Review Notes Packet

Add'l Practice Problems:

8. 12 3 2 4 5 7

9. 60 40 35 45 39


 **Graphing Calculator** Find the mean and the standard deviation.

10. The Dow Jones Industrial average for the first 12 weeks of 1988:

1911.31	1956.07	1903.51	1958.22	1910.48	1983.26
2014.59	2023.21	2057.86	2034.98	2087.37	2067.14

Income Use the chart at the right for Exercises 16–18.

16. Find the mean income for each year.

 **17. Writing** Use the standard deviation for each year to describe how farm income varied from 2001 to 2002.

18. For 2001, the farm incomes of which states are not within one standard deviation of the mean?

Farm Income in Midwestern States (millions of dollars)

State	2001	2002
Iowa	10,653	10,834
Kansas	7979	7862
Minnesota	7537	7478
Missouri	4723	4402
Nebraska	9221	9589
North Dakota	2938	3223
South Dakota	3897	3779


SOURCE: U.S. Department of Agriculture

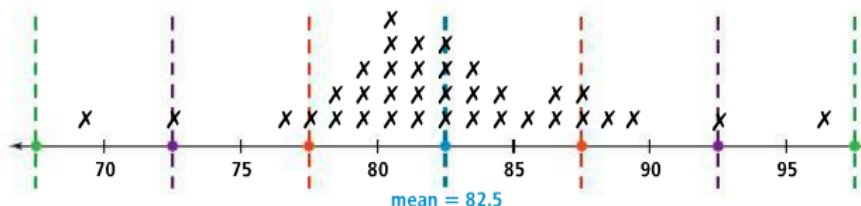
20. **Energy** The data for daily energy usage of a small town during ten days in January is shown.

83.8 MWh	87.1 MWh	92.5 MWh	80.6 MWh	82.4 MWh
77.6 MWh	78.9 MWh	78.2 MWh	81.8 MWh	80.1 MWh

a. Find the mean and the standard deviation of the data.

b. How many values in the data set fall within one standard deviation from the mean? Within two standard deviations? Within three standard deviations?

 **21. Error Analysis** One of your friends says that the data below fall within three standard deviations from the mean. Your other friend disagrees, saying that the data fall within six standard deviations from the mean. With whom do you agree? Explain.



Sketch a normal curve for each distribution. Label the x -axis values at one, two, and three standard deviations from the mean.

13. mean = 45, standard deviation = 2

14. mean = 45, standard deviation = 3.5

A set of data has a normal distribution with a mean of 50 and a standard deviation of 8. Find the percent of data within each interval.

15. from 42 to 58

16. greater than 34

17. less than 50

20. Writing In a class of 25, one student receives a score of 100 on a test. The grades are distributed normally, with a mean of 78 and a standard deviation of 5. Do you think the student's score is an outlier? Explain.

A normal distribution has a mean of 100 and a standard deviation of 10. Find the probability that a value selected at random is in the given interval.

23. from 80 to 100

24. from 70 to 130

25. from 90 to 120

26. at least 100

27. at most 110

28. at least 80

Answers:

Reading Packet HW

11.2

10. population: all adult in the US

sample: 1777 adults surveyed (1279 who do spring cleaning and 498 who do not)

12. population: all households in the US

sample: 2000 households surveyed (1280 who eat dinner together every night and 720 who do not)

14. parameter: the population is known (100 Senators in the US senate so it is possible to survey each one for their political affiliation)

16. statistic: the population would be all adults in the US so it is unlikely that all were surveyed about cleaning products. The data likely can from a sample, thus the 10% is a statistic.

22. The population is all of the majors offered at a university and the sample is all of the majors for which a student must take chemistry.

11.3

6. random

8. stratified

10. self selected: only those with strong opinion will respond

12. convenience: those who attend the health fair have some interest in health related issues already

14. sample of only high school students is from one demographic of the population only (who happened to be a segment of the population that frequently holds minimum wage jobs. Correct by expanding sample to include a broader range of people groups.

16. biased: business owners may be in favor of the highway b/c it will increase traffic around their business site, while home owners and conservation groups may opposed it.

18. not biased: sample from each class is randomly selected

20. assign a number to each of the coaches and randomly select 15 numbers

22. survey

24. experiment

26. biased: question implies a correct answer to the question by making one choice sound more exciting/favorable over the other. Reword question to give each choice equal validity.

28. biased: pressure to answer in one way is great—who would tell a child that they don't support a children's hospital? Have an adult conducting the survey instead.

11.4

4. not a randomized comparative experiment (more of an observational study). Conclusions drawn may show correlation but cannot show causation.

6. the study is a controlled experiment not an observational study

14. It is cost prohibitive to conduct extensive experiments in space and in most cases, it may also be impossible to conduct experiments as objects of study may be light years away.

Combination/ Permutation HW

p. 827 (1 – 3)

1. 30,240
2. 70
3. 720

p. 848 (4 – 8)

4. 7,000,000
5. 792
6. 2,162,160
7. 604,800
8. 20

8. $\bar{x} = 5.5, \sigma^2 \approx 10.9, \sigma \approx 3.3$

9. $\bar{x} = 43.8, \sigma^2 = 75.76, \sigma \approx 8.7$

10. $\bar{x} \approx 1984.98, \sigma \approx 57.62$

16. year 2001: ≈ 6707 ; year 2002: ≈ 6738

17. Overall farm income increased slightly, but there was less variability among the states in 2002.

The income in 2001 clustered more tightly around the mean.
(2001: $\sigma_x \approx 2679$, 2002: $\sigma_x \approx 2758$)

18. Iowa, North Dakota, and South Dakota

19. a–b. Check students' work.

20. a. $\bar{x} = 82.3, \sigma \approx 4.3$

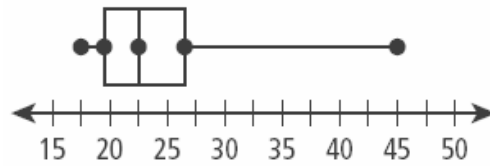
b. $1\sigma: 7; 2\sigma: 9; 3\sigma: 10$

21. Your first friend; one standard deviation encompasses all values within one standard deviation above and below the mean. The graph shows that all values are within 3 standard deviations of the mean.

MMM B&W HW

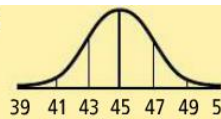
p. 845 (1, 3 – 6)

1. Mean = 3.4, median = 3, mode = 2
3. IQR = 7

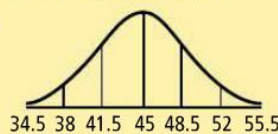


4. 16.01 in to 29.99 in
5. mean = 55, standard deviation = 54.3
6. outlier = 280. When removed, the mean decreases from 55 to 43.2 and the standard deviation decreases from 54.3 to 17.3

13.



14.



- | | | |
|-------------------|------------------|------------------|
| 15. 68% | 16. 97.5% | 17. 50% |
| 21. 59 min | 22. 2.5% | 23. 47.5% |
| 24. 99.7% | 25. 81.5% | 26. 50% |
| 27. 84% | 28. 97.5% | |