Precalc

Review Ch. 14

Quiz 14.5

Test is tomorrow

REVIEW EXERCISES

The table below gives the weight in ounces of the popular women's tennis shoes.

Weight (ounces)	Number of Shoes
9.0–10.0	2
10.0–11.0	18
11.0–12.0	5
12.0–13.0	2
13.0–14.0	3

mean $\bar{x} = \frac{331}{30} = 11.03$

median

standard deviation

$MD = \frac{25.3}{30} = 0.84$

$Var = \frac{33.467}{30} = 1.12$

$\sigma = 1.06$

11. What is the range of the data?

12. What are the class marks?

13. Draw a histogram of the data

13 – 14 3

12 – 13 2

11 – 12 25

10 – 11 20

9 – 10 2

$\frac{x}{1} = \frac{13}{18}$

$18x = 13$

$x = 0.72$

Med ≈ 10.72

Find the mean, median, and mode of each set of data.

14. {4, 8, 2, 4, 5, 5, 6, 7, 4}

15. {250, 200, 160, 240, 200}

16. {19, 11, 13, 15, 16}

17. {6.6, 6.3, 6.8, 6.6, 6.7, 5.9, 6.4, 6.3}

18.

stem	leaf
12	2 8
13	0 1 3 5
14	1 6

12 | 2 = 122

REVIEW EXERCISES

A number cube is tossed 10 times with the following results.

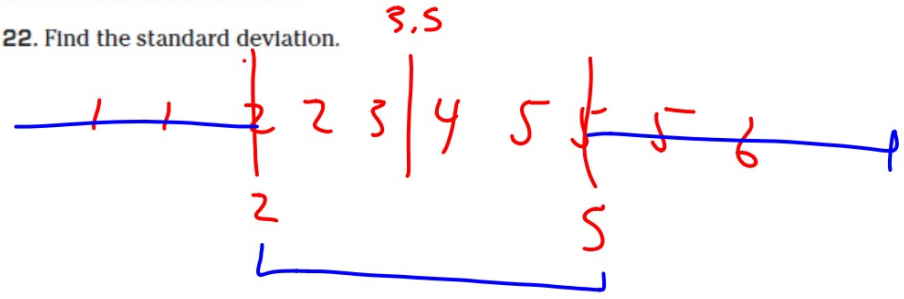
5 1 5 4 2 3 6 2 5 1

19. Find the interquartile range.

20. Find the semi-interquartile range. 1.5

21. Find the mean deviation.

22. Find the standard deviation.



The mean of a set of normally distributed data is 88 and the standard deviation is 5.

23. What percent of the data is in the interval 78–98?

24. Find the probability that a value selected at random from the data lies in the interval 86–90.

25. Find the interval about the mean that includes 90% of the data.

Suppose 150 values in a data set are normally distributed.

26. How many values are within one standard deviation of the mean?

27. How many values are within two standard deviations of the mean?

28. How many values fall in the interval between the mean and one standard deviation above the mean?

Find the standard error of the mean for each sample.

29. $\sigma = 1.5, N = 90$

30. $\sigma = 4.9, N = 120$

For each sample, find the interval about the sample mean that has a 1% level of confidence.

33. $\sigma = 15, N = 50, \overline{X} = 100$

34. $\sigma = 30, N = 15, \overline{X} = 90$

In a random sample of 200 adults, it was found that the average number of hours per week spent cleaning their home was 1.8, with a standard deviation of 0.5.

36. Find the standard error of the mean.

37. Find the range about the mean such that the probability is 0.90 that the true mean lies within the range.

38. Find the range about the sample mean that has a 5% level of confidence.

39. Find the range about the sample mean that has a 1% level of confidence.

40. **Entertainment** In a random sample of 100 families, the children watched television an average of 4.6 hours a day. The standard deviation is 1.4 hours. Find the range about the sample mean so that a probability of 0.90 exists that the true mean will lie within the range.

42. The height of members of the boys basketball team are normally distributed. The mean height is 75 inches, and the standard deviation is 2 inches. Randall is 80 inches tall. What percent of the boys on the basketball team are taller than Randall? *(Lesson 14-4)*