

CHAPTER 2 AND 3. Sample Test

- 1) What is the lower-class limit of the class 53 – 67?
- 2) What is the upper-class limit of the class 3 – 7?
- 3) The following frequency distribution analyzes the scores on a math test. Find the class boundaries and the class midpoint of scores interval 40-59.

Scores	Number of students
40-59	2
60-75	4
76-82	6
83-94	15
95-99	5

- 4) The following frequency distribution analyzes the scores on a math test. Find the class boundaries and the class midpoint of scores interval 95-99.

Scores	Number of students
40-59	2
60-75	4
76-82	6
83-94	15
95-99	5

- 5) What is the midpoint of the class 3 – 7?
- 6) What is the midpoint of the class 56 – 67?
- 7) What is the class width of the distribution shown on Table A?
- 8) What is the size of the sample shown on Table A?

Class	Frequency
40 - 48	2
49 - 57	5
58 - 66	16
67 - 75	5
76 - 84	2

Table A

Class	Frequency
18 -24	1
25 - ??	2
?? - 38	3
39 - 45	36
46 - 52	8

Table B

- 9) What is the upper limit missing in the second class on Table B?
- 10) What is the lower limit missing in the third class on Table B?
- 11) What is the size of the sample shown on Table B?

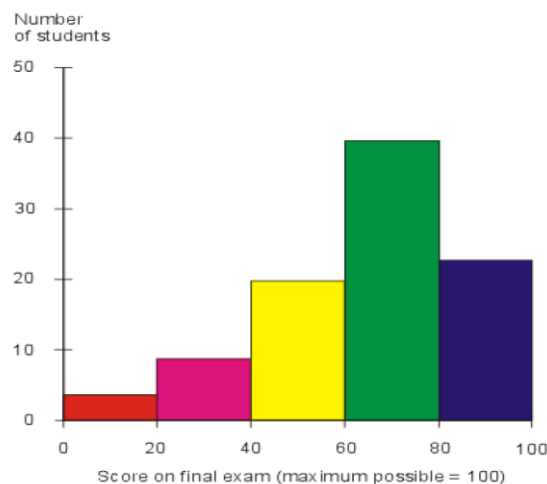
- 12) Find the mean of the following data set: 24, 26, 27 20, 28
- 13) Find the mean and mode of the following data set: 24, 26, 27 20, 24
- 14) Find the median of the following data set: 45, 46, 43, 42, 44, 46, 47, 49
- 15) Find the median of the following data set: 45, 46, 43, 42, 44, 50, 47, 49, 51
- 16) Find the median of the following data set: 21, 16, 14, 20
- 17) Find the midrange of the following data set: 45, 46, 43, 42, 44, 46, 47, 49, 51
- 18) Find the variance of the following data set: 24, 26, 27 20, 28
- 19) Find the standard deviation of the following data set: 24, 26, 27 20, 28
- 20) If a Physics student scored 80 points on a test where the mean score was 84.5 and the standard deviation was 2. What is the student's z score?
- 21) If a Math student scored 90 points on a test where the mean score was 85 and the standard deviation was 2. What is the student's z score?
- 22) A baseball player has a batting average of 0.300 each week of the season, with a standard deviation of 0.05. What is the z score when he bats 0.425 one week?
- 23) Tobias is constructing a pie graph to represent the number of hours her classmates do homework each day. He found that 8 of 40 classmates did homework for three hours each day. In her pie graph, this would represent how many degrees?
- 24) An automobile dealer wants to construct a pie graph to represent types of cars sold in April. He sold 48 cars, 6 of which were SUV. How many degrees should be used for the SUV section?
- 25) Find the first quartile Q1 and the third quartile Q3 in the following data set: 60, 62, 65, 61, 63, 68.
- 26) Find the median using the data set shown in the following stem and leaf plot

2	2 5 6 7
3	0 0 1
4	5 6
5	4 4 9
6	0 0 0 1

- 27) If a set of data has 64 values with a variance of 12, then the standard deviation is_____.
- 28) Given that the mean of a set of data is 40 and the standard deviation is 2, what is the coefficient of variation?

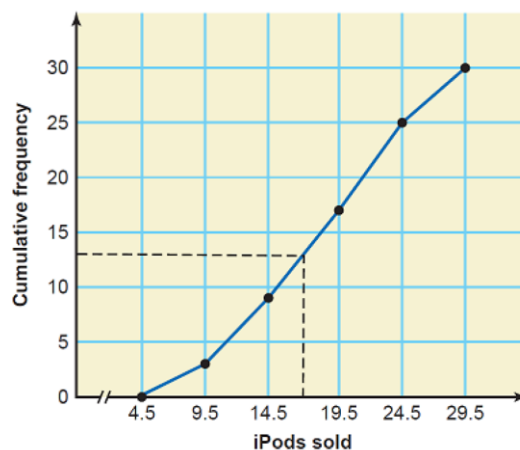
- 29) What is the variance of a data set with 56 items if its standard deviation is 3.4?
- 30) What is the coefficient of variation of a data set with 49 items, and a mean of 32 if its variance is 4?
- 31) What is the coefficient of variation of a data set with 30 items, and a mean of 250 if its variance is 25.

For exercises 32, 33, and 34 use the Histogram.



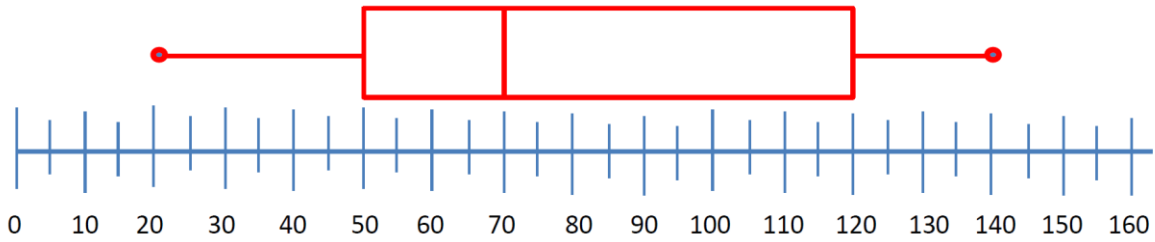
- 32) Approximately how many students score got less than 60 in the final exam?
- 33) How many students score between 40 and 60 in the final exam?
- 34) How many students score between 60 and 80 in the final exam?

For the exercises 35 – 38 use the Ogive shown below.



- 35) How many iPods were sold in all?
- 36) What is the class width used in the frequency distribution?
- 37) What are limits used in the first class?
- 38) What are limits used in the second class?

For the exercises 39 – 41 use the box plot shown below.

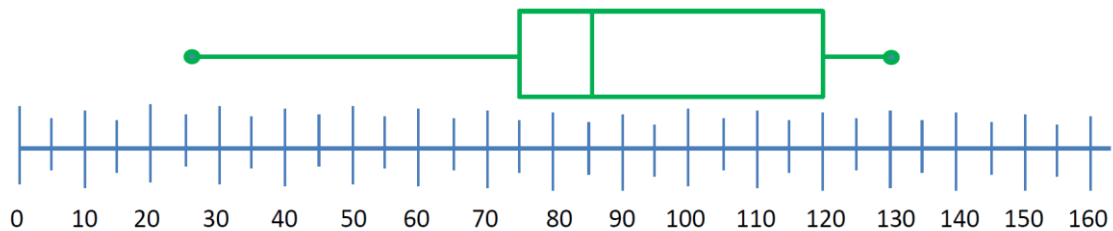


39) What is the median of the data set?

40) What are the first and the third quartiles?

41) What is range of the data set?

For the exercises 42 – 45 use the box plot shown below.



42) What is the interquartile range?

43) Determine if the shape of the distribution represented is *symmetric*, *skewed right*, *skewed left* or *none of these*.

44) What is the minimum entry in the data set?

45) What is the maximum entry in the data set?

46) What is the percentile of the second quartile Q2?

47) The quartiles divide the data set into _____ equal parts.

48) The deciles divide the data set into _____ equal parts.

49) The percentiles divide the data set into _____ equal parts

50) Find the third quartile Q3 if the interquartile range is 42 and the first quartile Q1 is 10.

51) An automobile dealer wants to construct a pie graph to represent the color of cars sold in May /2015. If 15% of the cars sold were white, how many degrees should be used for the white section?

ANSWERS

- 1) 53
- 2) 7
- 3) Class boundaries: 39.5 -59.5; Class Midpoint: 49.5
- 4) Class boundaries: 94.5 - 99.5; Class Midpoint: 97
- 5) 5
- 6) 61.5
- 7) 9
- 8) 30
- 9) 31
- 10) 32
- 11) 50
- 12) 25.0
- 13) 24.2, 24
- 14) 45.5
- 15) 46
- 16) 18
- 17) 48
- 18) 10
- 19) 3.2
- 20) -2.25
- 21) 2.5
- 22) 2.5
- 23) 72°
- 24) 45°
- 25) 61, 65
- 26) 45.5
- 27) 3.5
- 28) 0.05
- 29) 11.6
- 30) 0.06
- 31) 0.02
- 32) 32

- 33) 20
- 34) 40
- 35) 30
- 36) 5
- 37) 5 – 9
- 38) 10 – 14
- 39) 70
- 40) 50, 120
- 41) 120
- 42) 45
- 43) skewed left (most of the data lie to the left of the box).
- 44) 25
- 45) 130
- 46) 50 percentile
- 47) 4
- 48) 10
- 49) 100
- 50) 52
- 51) 54°