

Date: 10/4/12
Time: 8:11 AM

Instructor: Scyed Marashi
Course: Elementary statistics section
3831
Book: Larson: Elementary Statistics:
Picturing the World, 5e

Assignment: Homework 2

8. An insurance company crashed four cars of the same model at 5 miles per hour. The costs of repair for each of the four crashes were \$411, \$436, \$482, and \$238. Compute the mean, median, and mode cost of repair.

Compute the mean cost of repair. Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The mean cost of repair is \$ 391.75 . (Round to the nearest cent as needed.)
 B. The mean does not exist.

Compute the median cost of repair. Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The median cost of repair is \$ 423.50 . (Round to the nearest cent as needed.)
 B. The median does not exist.

- can you show me how they got this answer

Compute the mode cost of repair. Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The mode cost of repair is \$. (Round to the nearest cent as needed.)
 B. The mode does not exist.

YOU ANSWERED: A, 436

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9. The responses of a sample of 1060 people who were asked if the air quality in their community is better or worse than it was 10 years ago are shown below. Find the mean, median, and mode of the data.

Better: 349 Worse: 470 Same: 241

Find the mean. Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The mean is .
(Type an integer or decimal rounded to the nearest tenth as needed.)
- B. There is no mean for this data.

Find the median. Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The median is .
(Type an integer or decimal rounded to the nearest tenth as needed.)
- B. There is no median for this data.

Choose the correct mode of the data below.

- A. Better
- B. Worse
- C. Same
- D. The mode cannot be found.

*10.

The scores and their percent of the final grade for a statistics student are given. What is the student's weighted mean score?

	Score	Percent of final grade
Homework	82	20
Quiz	83	15
Quiz	96	15
Project	99	25
Final Exam	87	25

The student's weighted mean score is 89.75.
(Simplify your answer. Round to two decimal places as needed.)

YOU ANSWERED: 89.4

Can you show
how they got
this answer

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11. The heights (in inches) of 21 female students in a physical education class are shown below. Approximate the mean height of students in a class. The mean height is 65 inches. (Round to the nearest inch as needed.)

Height (in inches)	Frequency
60 - 62	3
63 - 65	7
66 - 68	9
69 - 71	2

12. Find the range, mean, variance, and standard deviation of the sample data set.

12 13 17 18 6 20 11 10 19

The range is 14.

$\bar{x} = 14$ (Round to the nearest tenth as needed.)

~~$s^2 = 22.5$~~ (Round to the nearest tenth as needed.)

$s = \square$ (Round to the nearest tenth as needed.)

YOU ANSWERED: 19.8

Can you show how they got this answer

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13. Both data sets have a mean of 225. One has a standard deviation of 16, and the other has a standard deviation of 24.

Click the icon to view data sets.

Which data set has which deviation?

- A. (a) has a standard deviation of 24 and (b) has a standard deviation of 16, because the data in (a) have more variability.
- B. (a) has a standard deviation of 16 and (b) has a standard deviation of 24, because the data in (b) have less variability.

Data Table

(a)	18	8	9	Key: 18 8 = 188	(b)	18	
	19	2	5			19	1
	20	1	1			20	2 3 5
	21	0	0			21	0 3 5 7 8
	22	2	5			22	1 1 2 3 3 3
	23	1	3			23	1 5 8 8
	24	0	9			24	2 3 4 5
	25	8				25	0 9
	26	3	5			26	

14. Heights of men on a baseball team have a bell-shaped distribution with a mean of 185 cm and a standard deviation of 7 cm. Using the empirical rule, what is the approximate percentage of the men between the following values?
- a. 178 cm and 192 cm
- b. 164 cm and 206 cm

- a. % of the men are between 178 cm and 192 cm.
- b. % of the men are between 164 cm and 206 cm.

15. From a sample with $n = 32$, the mean duration of a geyser's eruptions is 3.31 minutes and the standard deviation is 0.64 minutes. Using Chebychev's Theorem, determine at least how many of the eruptions lasted between 2.03 and 4.59 minutes.

At least of the eruptions lasted between 2.03 and 4.59 minutes.
(Simplify your answer.)

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16. A student's score on an actuarial exam is in the 78th percentile. What can you conclude about the student's exam score?

Choose the correct answer below.

- A. The student scored a 78% on the exam.
 B. The student scored higher than 78% of the students who took the actuarial exam.
 C. About 78% of students achieved the same score as this particular student.
 D. 78% of students scored higher than this particular student.

17. (a) Find the five-number summary, and (b) draw a box-and-whisker plot of the data.

3 8 8 6 2 9 8 7 9 6 9 3 2 6 2 9 8 7 7 9

(a) Min = (Simplify your answer.)

Max = (Simplify your answer.)

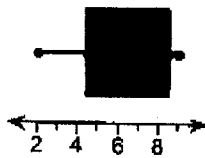
Q_1 = (Simplify your answer.)

Q_2 = (Simplify your answer.)

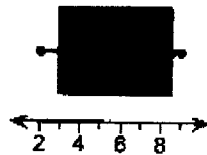
Q_3 = (Simplify your answer.)

- (b) Choose the correct box-and-whisker plot below.

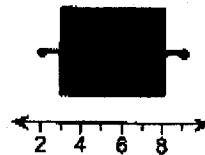
A.



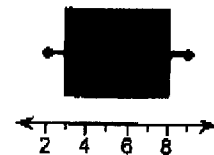
B.



C.



D.



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18. The data show the number of vacation days used in a recent year by a sample of 12 employees.
(a) Find the data set's first, second, and third quartiles.
(b) Draw a box-and-whisker plot that represents the data set.

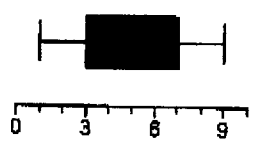
2 8 5 9 4 3 1 7 7 7 7 7

Find the three quartiles.

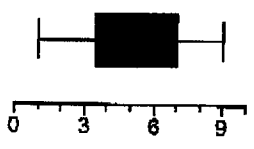
$Q_1 = \square$
 $Q_2 = \square$
 $Q_3 = \square$

Choose the correct box-and-whisker plot below.

A.



B.



C.



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19. The midpoints A, B, and C are marked on the histogram. Match them to the indicated scores. Which scores, if any, would be considered unusual?

The point A corresponds with $z =$

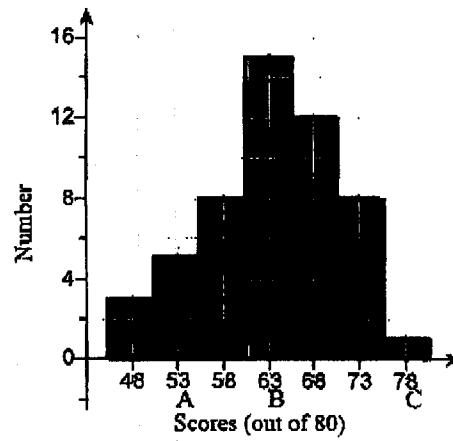
0
2.16
-1.41

The point B corresponds with $z =$

0
2.16
-1.41

The point C corresponds with $z =$

0
2.16
-1.41



$z = 0$
 $z = 2.16$
 $z = -1.41$

Which scores, if any, would be considered unusual?

- A. -1.41
 B. 2.16
 C. 0
 D. None

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20. The mean for statistics test scores is 62 and the standard deviation is 6.0. For the biology test scores, the mean is 23 and the standard deviation is 3.8. The test scores of a student who took both tests are given below.

A student gets a 79 on the statistics test and a 28 on the biology test.

- (a) Transform each test score to a z-score.
(b) Determine on which test the student had a better score.

- (a) Transform the statistics test score to a z-score.

$$z = \square$$

(Type an integer or decimal rounded to the nearest hundredth as needed.)

Transform the biology test score to a z-score.

$$z = \square$$

(Type an integer or decimal rounded to the nearest hundredth as needed.)

- (b) Determine on which test the student had a better score. Choose the correct answer below.

- The scores on both tests are the same.
 On the statistics test the student had a better score.
 On the biology test the student had a better score.