

Day 9 Homework Answers

15. Run times.

The distribution of runtimes is skewed to the right. The shortest runtime was around 28.5 minutes and the longest runtime was around 35.5 minutes. A typical run time was between 30 and 31 minutes, and the majority of runtimes were between 29 and 32 minutes. It is easier to run slightly slower than usual and end up with a longer runtime than it is to run slightly faster than usual and end up with a shorter runtime. This could account for the skew to the right seen in the distribution.

med.

IQR

16. Vineyards revisited.

- a) The distribution of the size of 36 Finger Lakes vineyards is skewed to the right, so we should use the median as a measure of center. The skewed distribution will pull the mean to the right, making it too large to represent a typical vineyard.
- b) The distribution of the size of 36 Finger Lakes vineyards is skewed to the right, so we should use the IQR as a measure of spread. The skewed distribution will make the standard deviation very large, making it appear there's more variation in vineyard size than there actually is.

17. Run times revisited.

- a) The distribution of runtimes is skewed to the right, so we should use the median as a measure of center. The skewed distribution will pull the mean to the right, making it too large to represent a typical run time.
- b) The distribution of runtimes is skewed to the right, so we should use the IQR as a measure of spread. The skewed distribution will make the standard deviation very large, making it appear there's more variation in run times than there actually is.

18. Pizza prices.

The mean and standard deviation would be used to summarize the distribution of pizza prices, since the distribution is unimodal and symmetric.

19. Neck size.**20. Another pizza.**

The distribution of Dallas pizza prices is unimodal and roughly symmetric, centering around \$2.60 per slice. During most weeks, the cost was between \$2.40 and \$2.60, never getting cheaper than \$2.20, and rarely going above \$3.00.

21. Describing neck sizes.

The distribution of men's neck sizes is unimodal and roughly symmetric, centering around 15 inches, with most men having necks measuring between 13.5 and 16.5 inches.

22. Pizza prices again.

- a) The mean pizza price is closest to \$2.60. That's the balancing point of the histogram.
- b) The standard deviation in pizza prices is closest to \$0.15, since that is the typical distance to the mean. There are no pizza prices as far as \$0.50 or \$1.00.

23. Neck sizes again.

- a) The mean neck size is closest to 15 inches. That's the balancing point of the histogram.
- b) The standard deviation in neck sizes is closest to 1 inch, because a typical value lies about 1 inch from the mean. There are a few points as far away as 3 inches from the mean, and none as far away as 5 inches. Those are too large to be the standard deviation.

Day 10 - More Summarizing Data

Classwork (Do on looseleaf)

Pg. 79 # 24, 26, 28

Homework (Do on looseleaf)

Pg. 79 # 25, 27, 29

#24) Super Bowl Points

45,47,23,30,29,27,21,31,22,38,46,37,66,50,
 37,47,44,47,54,56,59,52,36,65,39,61,69,43,
 75,44,56,55,53,39,41,37,69,61,45,31,46,31,
 50,48,56,38,65,51

① 2nd "+" 4 to clear all lists

② Stat-Edit L₁ to put data into L₁

③ Stat-SortA(L₁)

④ go to L₁ to see data in order

Total Super Bowl Points

2		1	2	3	7	9					
3		0	1	1	1	1	6	7	7	8	8
4		1	3	4	4	5	5	6*	6	7	7
5		0	0	1	2	3	4	5	6	6	6
6		1	1	5	5	6	9	9			
7		5									

Key: 7|5 = 75

26) Stat-Calc - 1Var Stat

a) med = 46 points $\bar{x} = 46.125$

b) $Q1 = 37.5$ points
 $Q3 = 55.5$ points

28) The total number of points scored by each team has a distribution that is roughly symmetric with a center of approx. 46 points. ~~Most values are between~~ The middle half of the data is between 37.5 and 55.5 points. There is a possible outlier at 75 points.

24. Super Bowl points.

Total Number of Super Bowl Points	
7	5
6	1155699
5	00123456669
4	134455667778
3	011167778899
2	12379
Key : 7 5 = 75 total points	

26. Points again.

- The median number of points scored in the first 48 Super Bowl games is 46 points.
- The first quartile of the number of points scored in the first 48 Super Bowl games is 37 points. The third quartile is 55.5 points.

28. Describing Super Bowl points.

The distribution of total points scored in the Super Bowl is roughly symmetric. The lowest number of points scored was 21, and the highest number of points scored was 75. The median number of points scored was 46, and the middle 50% of Super Bowls has between 37 and 55.5 points scored.