

AP STATISTICS

Review Unit II – Descriptive Statistics

ANSWERS

1. Check your notes?

2. D

3. A

4. D

5. E

6. B

7. E

8. B

9. E

10. A

11. E

12. B

13. B

14. C

15. A

16. mean = 84.2

median = 80.6

minimum = 77

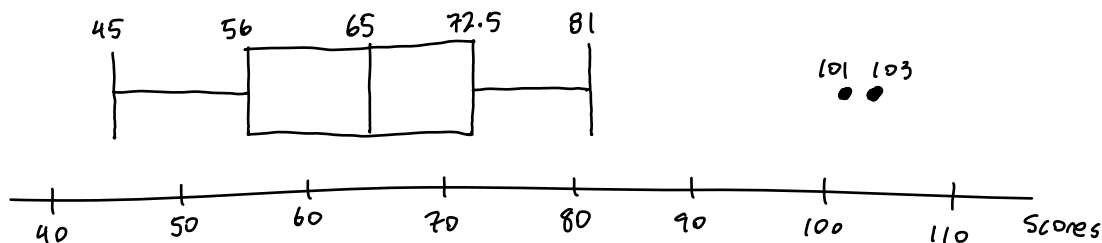
IQR = 10.8

s.d. = 7.2

variance = 51.84

17. a) Min: 45 Q1: 56 Median: 65 Q3: 72.5 Max: 103

b) (Make sure to show the work for the outlier test!)



18. a)

Mark	Home runs each season										The Bambino (Babe)
	3	9	9		0						
					1						
		9	2		2		5	2			
	2	9	9	3	2	3	5	4			
		2	9		4		1	6	7	6	9
		8	2		5		4	9	4		
		5			6		0				
		0			7						

2 | 3 | 5 means
32 HRs for McGwire
35 HRs for Ruth

b) **In general**, McGwire had the better single season of 70, but also had more variation in the number of home runs hit than did Ruth.

Center: Babe Ruth had a higher mode (in the 40's) than did McGwire (in the 30's).

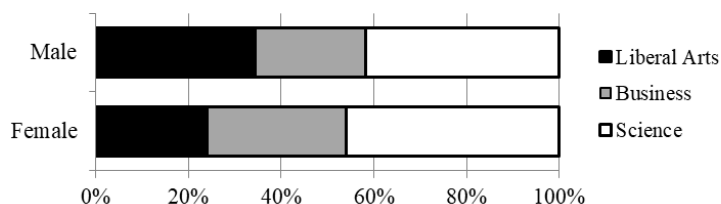
Shape: The distribution for number of home runs hit per season by Ruth is unimodal and approximately symmetric. McGwire's distribution is also unimodal, but skewed to the higher number of HRs.

Spread: McGwire's distribution goes from 3 – 70 (range of 67), which has more variability than Babe, who went from 22 – 60 (range of 38).

Unusual Features: Mark McGwire's distribution has a gap in the 10's, with 3 possible low outliers (possibly due to injury). No unusual features for Babe Ruth's distribution.

c) Answers may vary here, but should justify based on the STEMPLOT and response to part (b) only. (For instance, outside knowledge of baseball history should not be used to justify your response)

19. a) **CENTER:** The distribution of test scores on this Comic Design at East Podunk has a higher median than West Podunk (about 78 to 73).
SPREAD: The scores at West Podunk are more spread out (62 to 130, range of 68) than at East Podunk (60 to 88, range of 28). West Podunk's distribution also has a larger IQR than East Podunk.
SHAPE: While the shapes are difficult to compare with boxplots, the distribution of scores for East Podunk appears slightly left-skewed, while the scores for West Podunk appear skewed to the right.
OUTLIERS: West Podunk has 2 high outliers at around 126 and 130, while there are no outliers for East Podunk.
- b) Answers may vary, but should make comparisons between each groups' min, Q1, median, Q3, and max.
20. Mean = 298 points, Standard deviation = 15.811 points
21. a) A graph that compares PROPORTIONS should be used. One possible example:



- b) Yes; Student should proceed to COMPARE the PROPORTIONS (not counts) of each field of study between the two genders in context.