Math 160
Professor Busken
Measures of Center **Name:** _____

For questions 1—7, use the *sample data* given below. Environmental scientists measured the greenhouse gas emissions of a sample of cars. The amounts listed below are in tons (per year), expressed as CO_2 equivalents.

7.2 7.1 7.4 7.9 6.5 7.2 8.2 9.3

1. What is the variable, x, being measured in this sample?

2. Determine the value of $\sum x$. 2. _____

3. Determine the value of $\bar{x}$. 3. _____

4. What is the median value of data set? 4. _____

5. Is there a mode? If so what is its value? 5. _____

6. What is the midrange value of data set? 6. _____

7. Are there any outlier values in the given data set? 7. _____

For questions 8—14, use the *sample data* given below. The data is from a simple random sample of space shuttle flight duration times (in hours).

73 95 235 192 165 262 191 376 259 235 381 331 221 244 0

8. What is the variable, x, being measured in this sample?

9. Determine the value of $\sum x$. 9. _____

10. Determine the value of $\bar{x}$. 10. _____

11. What is the median value of data set? 11. _____

12. Is there a mode? If so what is its value? 12. _____

13. What is the midrange value of data set? 13. _____

14. Are there any outlier values in the given data set? 14. _____

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15. ***Multiple Choice Question*** Use the data set from questions 7 and 8 (stem and leaf plot) from the last worksheet to answer this question. The data set

a.) has no mode. b.) has a mode. c.) is bimodal. d.) is multimodal.

For question 16, use the *GPA data* given summarized in the freqeuncy distribution below.

class limits	frequency
1.9 to < 2.1	3
2.1 to < 2.3	3
2.3 to < 2.5	3
2.5 to < 2.7	7
2.7 to < 2.9	7
2.9 to < 3.1	4
3.1 to < 3.3	2
3.3 to < 3.5	1

16. What is the approximate mean of the data set? Use only the frequency distribution table to make your estimate.

16. _____

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17. The overall grade in this class is composed of the following categories and their associated weights.

Participation	3%
Homework	5%
Quizzes	17%
Exams	50% (16.$\overline{6}$% each)
Mandatory Final Exam	25%

Suppose Martha earned an 87% for participation, a 77% for homework assignments, and a 71% for her quiz average (after dropping the lowest three). Also suppose Martha had a 78% exam average, and final exam score of 58%. What was her overall numerical grade? (Hint: it's a weighted mean).

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18. Suppose Jamie earned an 93% for participation, a 86% for homework assignments, and a 83% for her quiz average (after dropping the lowest three). Also suppose Jamie had a 91% exam average. If Jamie wants an overall grade in the class of A (92.5%), what percentage score does he need to get on the final exam?