Concepts Assignment 2 – Due 7/28

The following information is for Questions 1–5.

A stemplot of ages (in years) of 18 faculty in a college math department follows. **Show calculations** of each part below to receive credit. An answer without supporting work may not receive credit even if the answer is correct.

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

1. List the data set (values) that this stemplot corresponds to:

2. [Circle] The median age (in years) of the faculty members is

a. 39. b. 45. c. 47.5. d. 49.

Show all work/calculations for credit. No guessing.

3. [Circle] If the eldest faculty member retires and is replaced by a 26-year old, the median age will

a. decrease by 2 years. b. stay the same. c. increase by 2 years. d. increase by 4 years.

Show all work/calculations for credit. No guessing.

4. [Circle] The first quartile of the age of the faculty members is:

a. 38 years. b. 38.5 years. c. 39 years. d. 40 years.

Show all work/calculations for credit. No guessing.

5. [Circle] The $1.5 \times IQR$ rule will identify an age as a high outlier if it exceeded

a. 19 years. b. 28.5 years. c. 77 years. d. 86.5 years.

Show all work/calculations for credit. No guessing.

The following information is for Questions 6–11.

Choose a new car at random and note its color and body style. The following probabilities are given:

Color	White	Silver	Black	Red	Gray	Blue
Probability	0.17	0.18	0.16	0.13	0.12	0.11

Body Style	SUV	Truck	Sedan	Van	Wagon	Convertible
Probability	0.15	0.1	0.17	0.08	0.14	0.15

6. What is the probability that the vehicle you choose has any other color than the six listed? Write the answer as a percent. Show work for credit.

Answer: _____

7. What is the probability that a randomly chosen vehicle is not gray? Write the answer as a percent. Show work.

Answer: _____

8. If we have the events A = the chosen car is blue and B = the chosen car is a wagon are the events A and B mutually exclusive? **Explain with details in the context of the problem (not just general explanations).**

No explanation is need for Questions 9–11.

9. If we have the events A = the chosen car is blue and B = the chosen car is a wagon, what is P(A or B)?
a) 15 % b) 19% c) 11% d) 0 e) can not say

10. If we have the events A = the chosen car is blue and C = the chosen car is white, what is P(A and C)?
a) .18 b) 19% c) 28% d) 0 e) can not say

11. If we have the events A = the chosen car is blue and B = the chosen car is a wagon, what is P(A and B)?
a) 20% b) 19% c) 18% d) 0 e) can not say

The following information is for Questions 12 - 16. No explanation needed.

Toss 3 coins (a penny, a dime and a quarter). The outcome of each coin can be either a head (H) of a tail (T).

12. Write down the sample space. Record the sample space by always keeping the same order of coins.

13. Find P(2 tails).

14. Find P(2 or more tails).

15. Find P(at most 2 tails).

16. Let X = number of heads. Find (X<2).