

Show All WORK!

1) Match the following values as a

A) discrete random variable, B) continuous random variable, or C) not a random variable:

i) Exact weight of quarters now in circulation in the United States \_\_\_\_\_

ii) Shoe sizes of humans \_\_\_\_\_

iii) Political party affiliations of adults in the United States \_\_\_\_\_

A) B; A; C

B) A; B; C

C) C; A; B

D) A; C; B

Provide an appropriate response.

2) Determine the probability distribution's missing value.

The probability that a tutor will see 0, 1, 2, 3, or 4 students

x	0	1	2	3	4
P(x)	0.57	0.07	0.16	0.02	?

3) The random variable x represents the number of credit cards that adults have along with the corresponding probabilities.

a) Find the mean and standard deviation.

x	P(x)
0	0.07
1	0.68
2	0.21
3	0.03
4	0.01

b) Find the probability of at most 2 credit cards.

c) Find the probability of at least 3 credit cards. Is 3 a statistically high number of credit cards?

4) One thousand tickets are sold at \$2 each. One ticket will be randomly selected and the winner will receive a color television valued at \$350. What is the expected value for a person that buys one ticket? Explain

5) A 28-year-old man pays \$181 for a one-year life insurance policy with coverage of \$150,000. If the probability that he will live through the year is 0.9994, what is the expected value for the insurance policy to the insurance company? Can the insurance company expect to make a profit from the sale of such policies? Explain.