

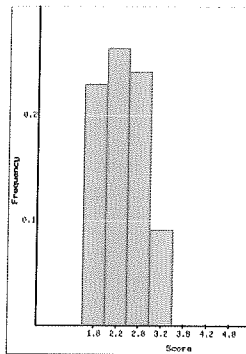
1. *Note.* This problem has three parts. Be sure to complete all three.

An evaluation form asks for a student's overall rating of a teacher, which can be only one of the numbers 1, 2, 3, 4, or 5. This semester, 87 of Dr. Jones' students filled out evaluation forms, with the following results.

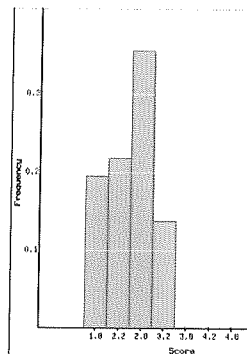
x (score)	1	2	3	4	5
Frequency	8	17	19	31	12

Construct a discrete probability distribution for the student evaluation results. Round the entries to four decimal places.

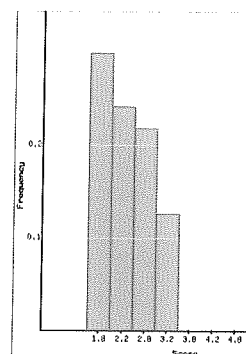
x (score)	1	2	3	4	5
Frequency					



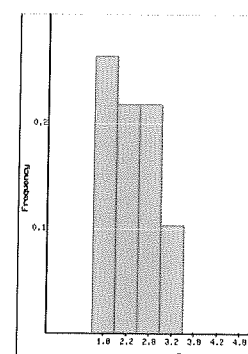
A



B



C



D

Which of the histograms shown is the relative frequency histogram for this data?

- A. Histogram D
- B. Histogram A
- C. Histogram C
- D. Histogram B

Finally, what is the probability that a randomly chosen student gave Dr. Jones a 3 or a 4? (Round your answer to four decimal places.)

2. What value for $P(x=0)$ makes the following table a probability distribution?

x	0	1	2	3
$P(x)$?	0.29	0.29	0.22

3. (2 points) The variable 'the weight of a *Planorbis rubrum* snail' is

The variable 'the most common girl's name in America in 2018' is

The variable 'the number of a post box in the Trump Tower mail room' is

The variable 'the shoe size of a resident of Dallas in 2018' is

The variable 'the time until death of a heart transplant patient' is

4. Find the expected value of the random variable X , which has the following PDF:

x (score)	28	21	19	10	9	5
$p(x)$	0.095	0.305	0.15	0.17	0.11	0.17

$E[X]=$ (Round your answer to two decimal places.)

5. Given the following discrete probability distribution, what is $P(x=12)$?

x (score)	16	14	13	12	1
$p(x)$	110	110	120	14	12

- A. 1
- B. 34
- C. 14
- D. You can't fool me; this isn't a probability distribution

6. Is the following table a discrete probability distribution?

x (score)	-7	-4	-2	1	3
$p(x)$	0.0	0.4	0.1	0.3	0.15

- A. Yes, because the probabilities add up to 1
- B. Yes, because all the probabilities are between -1 and 1
- C. No, because the probabilities don't add up to 1
- D. No, because not all the probabilities are between 0 and 1
- E. No, because you can't have a probability of 0.0

7. Is the following table a discrete probability distribution?

x (score)	14	17	19	20	21	28
$p(x)$	0.1	0.15	-0.1	0.25	0.3	0.45

- A. No, because the probabilities don't add up to 1
- B. Yes, because all the probabilities are between -1 and 1
- C. Yes, because the probabilities add up to 1
- D. No, because not all the probabilities are between 0 and 1

8. In one week, 88 customers at Zedd Motors rated their satisfaction with the service, giving it a 1, 2, 3, 4, or 5. The results are shown below.

x (score)	1	2	3	4	5
Frequency	11	22	24	18	13

Construct a discrete probability distribution for these results. Round the entries to three decimal places.

x	1	2	3	4	5
$P(x)$					

What is the probability that a randomly chosen customer gave the service a 3 or a 4? (Round your answer to three decimal places.)

9. The variable 'The number of hairs on a cocker spaniel' is

The variable 'The number of minutes John can stand on one foot' is

The variable 'The amount of rain that fell on Radford, VA in 2016, in inches' is

The variable 'The number of teeth a tiger shark has' is