

Name _____

Finite Mathematics (Math 10120), Spring 2020

Quiz 4 Wednesday, March 25, 2020

1. The 20 students in Dr. Doctor's class received the following scores on a recent quiz:
 8, 10, 3, 10, 6, 9, 4, 9, 10, 6, 8, 10, 1, 7, 9, 9, 5, 8, 2, 10.
 Complete the frequency and relative frequency distributions below:

Score	Frequency	Relative Frequency
0		0
1	1 = 1	1/20
2	1 = 1	1/20
3	1 = 1	1/20
4	1 = 1	1/20
5	1 = 1	1/20
6	11 = 2	2/20 = 1/10
7	1 = 1	1/20
8	111 = 3	3/20
9	1111 = 4	4/20 = 1/5
10	11111 = 5	5/20 = 1/4

2. Find the mean, the variance and the **population** standard deviation of the data given by the following frequency distribution. I want you go show your work, so punching these numbers into a calculator that produces this information won't get credit.

Score x_i	Frequency f_i	$x_i f_i$	$x_i - \mu$	$(x_i - \mu)^2$	$f_i (x_i - \mu)^2$
80	2	160	15	225	450
70	2	140	5	25	50
60	5	300	-5	25	125
50	1	50	-15	225	225
	10	650			850

$$\hookrightarrow \mu = \frac{650}{10} = 65$$

$$\hookrightarrow \sigma^2 = \frac{850}{10} = 85$$

$$\sigma = \sqrt{85}$$

$$= 9.22 \text{ (2 dec. places)}$$

mean	$\mu = 65$
variance	$\sigma^2 = 85$
standard dev	$\sigma = 9.22$ (2 dec. places)