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Math 80

1 August 2000

<div align="center">Midterm 1</div>

1. A. The sample size is ten college students

   B. The mean is 722/10= 72.2

   C. s= $\sqrt{49.5111}$ = 7.036. 7.04

   D. In order to get a more random sample students that have not consumed any caffeine can also be included in the sample.

2. A. The mean is 5963/14= 425.93

   B. The average acceptance rate to Whittier College is 40313/58591=.688. 69%

   C. s= $\sqrt{1527361.346}$ = 1235.86 There are no outliers.

   D. Time Series graph
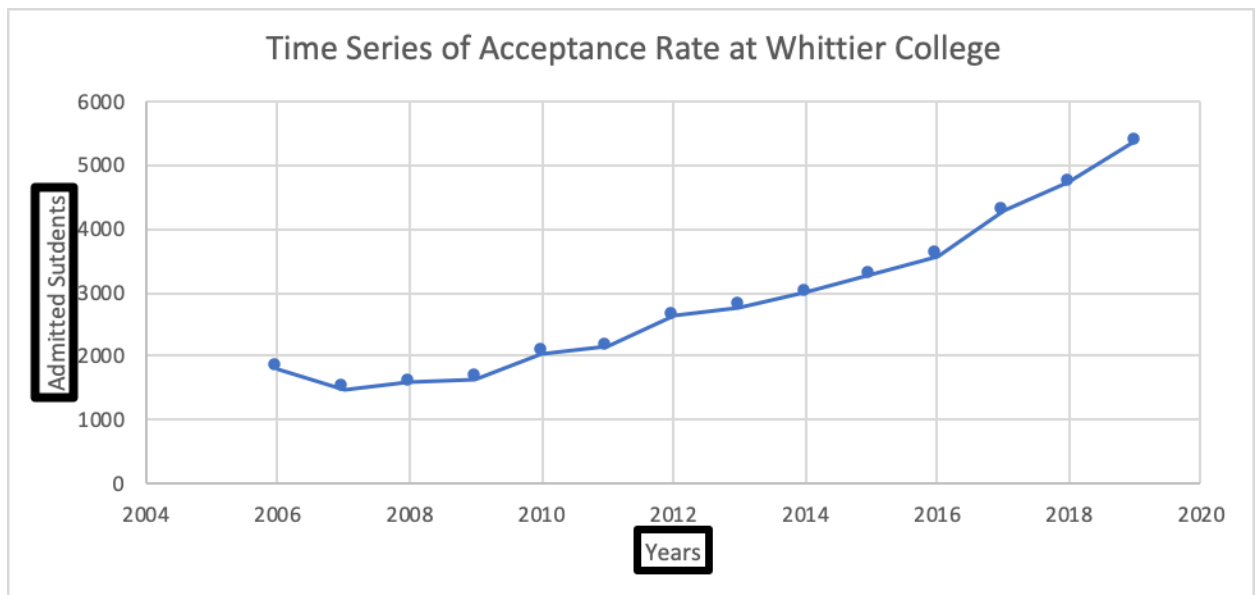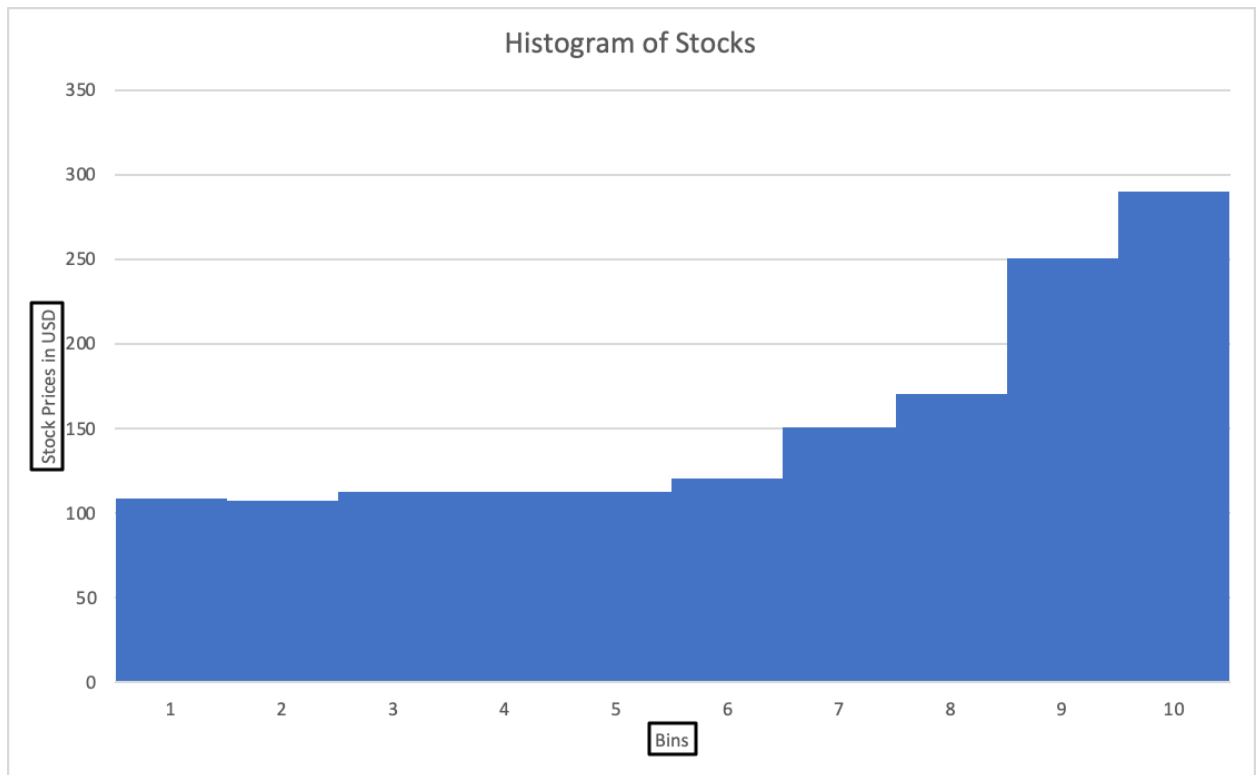
3. A. 75/100(11)= 8.25. The price $170.00 represents the 75th percentile.

   B. 3+2.5/10(100)= 55%. $113.00 corresponds to the 55th percentile

   C. Mean is 1536/10= 153.6 $s = \sqrt{4266.488} = 65.32$

   D.

Histogram of Stocks

Stock Prices in USD (y-axis)

Bins (x-axis)

   This histogram is left skewed.

4. A. There is a 1 in 6,700 chance of five ones being in play.

   B. There is a 1 in 200,000 chance of six fives being in play.

5. A. ½^8=0.4. 4% chance the molecule follows this path.

   B. ½^8=0.4. 4% chance

   C. They both have an equal 4% chance of occurring because they are independent events.

Unit 1

1.

outcome	x	p(x)	x*p(x)
1	90	0.01	0.9
2	16	0.49	7.84
3	-15	0.49	-7.35
4	-95	0.01	-0.95
		Exp. Value	0.44
		1000 Shar.=	2272.72727

The expectation value is 0.44. Her profit after buying 1000 shares is $2272.73.

2. A.

x	Ngood	p(x)	x*p(x)
0	0	0	0
1	0	0	0
2	0	0	0
3	0	0	0
4	1	0.01	0.04
5	0	0	0
6	3	0.03	0.18

7	6	0.06	0.42
8	0	0	0
9	0	0	0
10	0	0	0

B. The participants are guessing randomly because they are only given two seconds to decide someone's IQ based on a photo. They are not provided enough information to give an accurate judgement of a person's IQ.

C. Yes a binomial distribution is seen above because there is a fixed number of independent trials led by the psychologist. The p value is 0.064.