Stat 235

Lab 2

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Lab EL12

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1 Normal Density

1.a

as σ increases, the curve flattens, the and there is more variation in the tensile strength. makes sense, since $\sigma^2 = V(x)$

1.b

the mean changes
 As μ increases, the fraction below 275 **increases/decreases** and the fraction below 295 **increases/decreases**.

2 How changes in the Mean and Std. Deviation affect the fraction of alloy slabs that do not meet the TS Specifications.

	Parameters	Problem	Answer
a)	$\mu = 285$ and $\sigma = 5$	Fraction of unacceptable	0
	$\mu = 283$ and $\sigma = 5$	Fraction of unacceptable	0
b)	$\mu = 285$ and $\sigma = 6$	Fraction of unacceptable	0
c)	$\mu = 285$ and $\sigma = 5$	Within 1 std. deviation	0
		Within 2 std. deviations	0
d)	$\mu = 285$ and $\sigma = 5$	Strength exceeded by 95%	0
		Strength exceeded by 99%	0
e)	$\mu = 285$	σ so that 1% have $TS < 275$ or $TS > 295$	0

Table 1: My caption

3 Random Number Generator

3.a

3.b

k	Within k Std. Deviations of the mean $\mu = 285$	Frequency	Relative Frequency
1	(0,0)	0	0
2	(0,0)	0	0
3	(0,0)	0	0

Table 2: My caption

3.c

3.d

Using the *Desctiptive Statistics Tool, we find that*

$$mean = XX.XXXX$$

$$std.\ deviation = XX.XXXX$$

4   Changes in Manufacturing Process

4.a   Summary Statistics

Using the *Desctiptive Statistics Tool, we find that*

$$mean = XX.XXXX$$

$$std.\ deviation = XX.XXXX$$

This is consistent / inconsistent

4.b   Histogram

4.c

4.d

5   Binomial Probabilities

5.a

5.b