1. A. I created a normal distribution of 30 points with a mean of 533.3 and a standard deviation of 309.5.
1.B.

Normal with mean = 533.3 and standard deviation = 309.5

x	P(X ≤ x)
333.3	0.259074

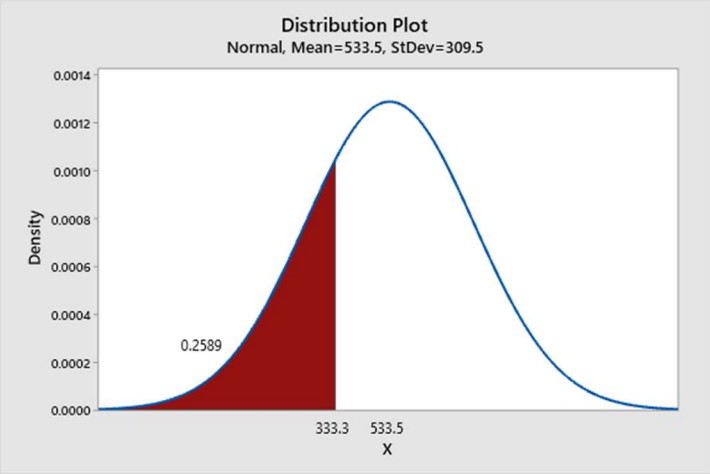
Normal with mean = 533.3 and standard deviation = 309.5

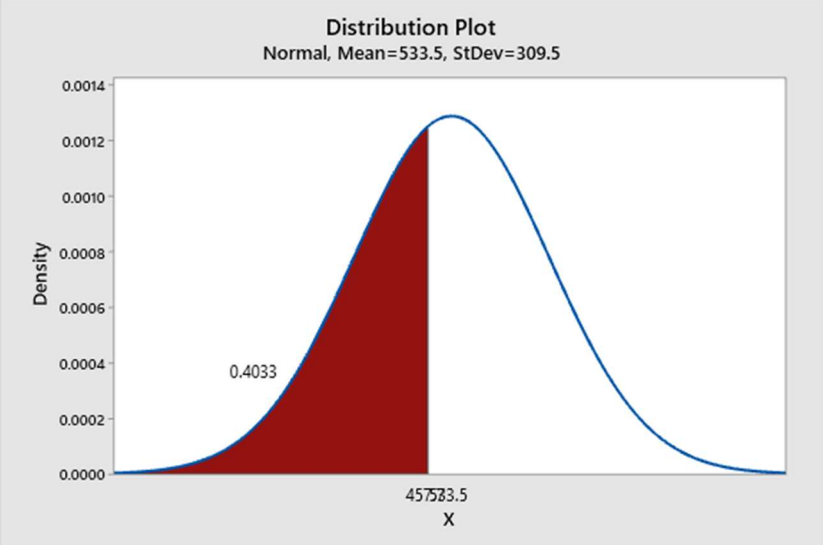
x	P(X ≤ x)
457.7	0.403513

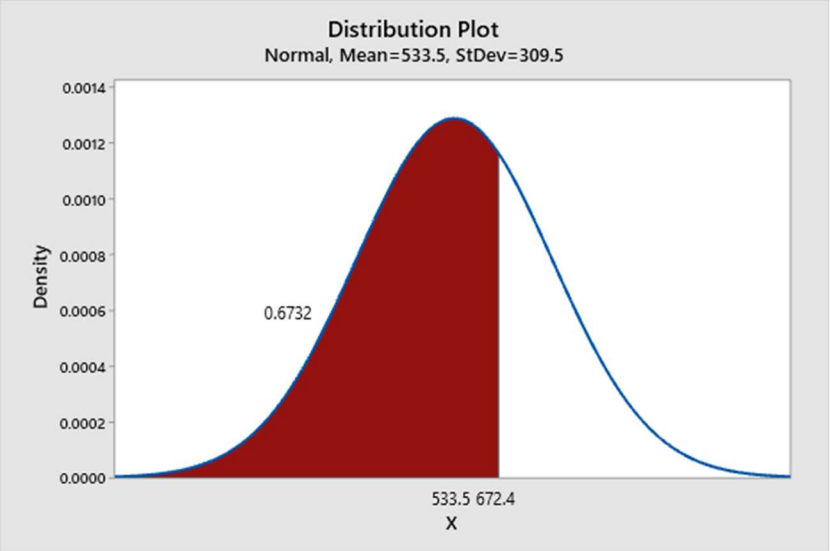
Normal with mean = 533.3 and standard deviation = 309.5

x	P(X ≤ x)
672.4	0.673441

The probabilities are not .25, .50, and .75 because the sample size is small. If you had a larger size, it would be closer.
1.C.



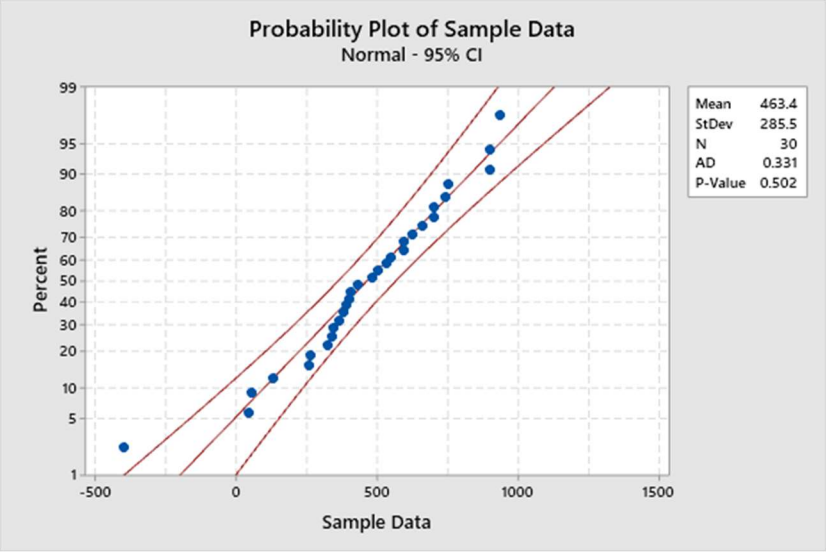




1.D. Conf Int. for 95%: (356.8, 570.0) Conf Int. for 85%: (386.3, 540.5)

I used a T test because the data set has only 30 points. If it had more, I would use a z test. The confidence interval increased because you are using a less precise interval.

1.E. The data is normally distributed because the P value is above .05.



2.A.
I created a uniform distribution of 50 points with a mean of 533.3 and a standard deviation of 309.5.
2.B. The probabilities are not .25, .50, and .75 because the sample size is small. If you had a larger size, it would be closer.

Continuous uniform on 18.6249 to 995.337

x	P(X ≤ x)
326.2	0.314909

Continuous uniform on 18.6249 to 995.337

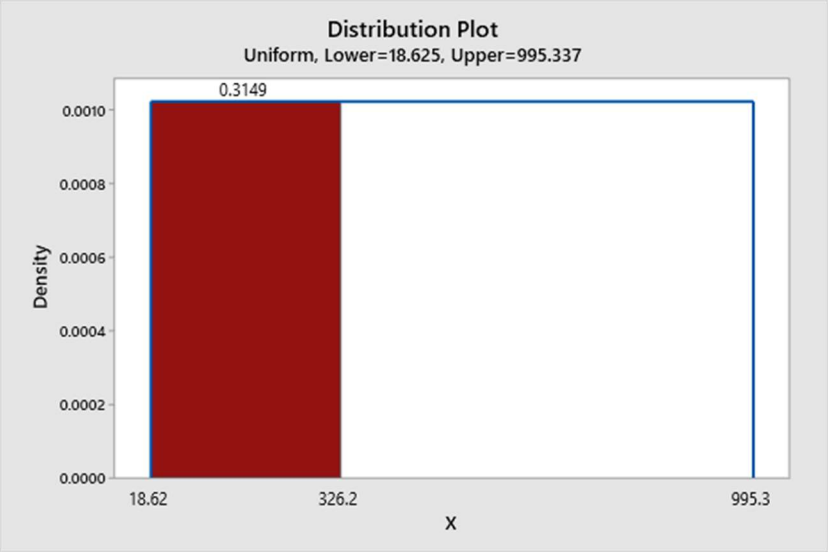
x	P(X ≤ x)

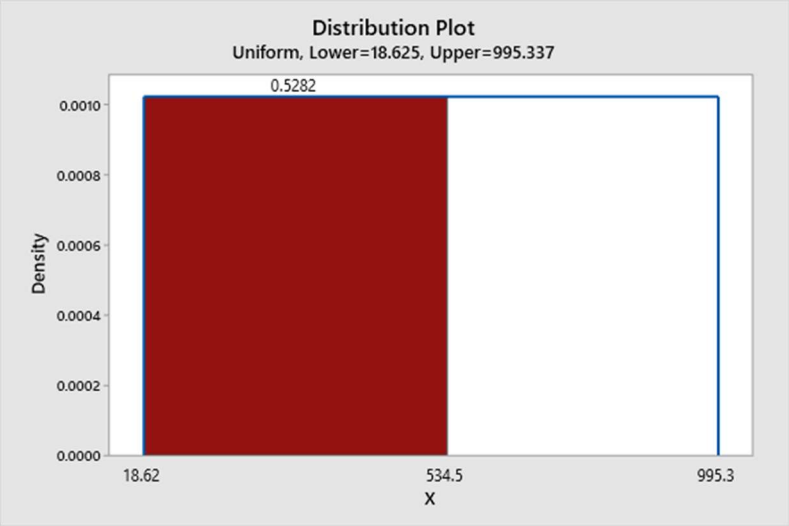
534.6	0.528278

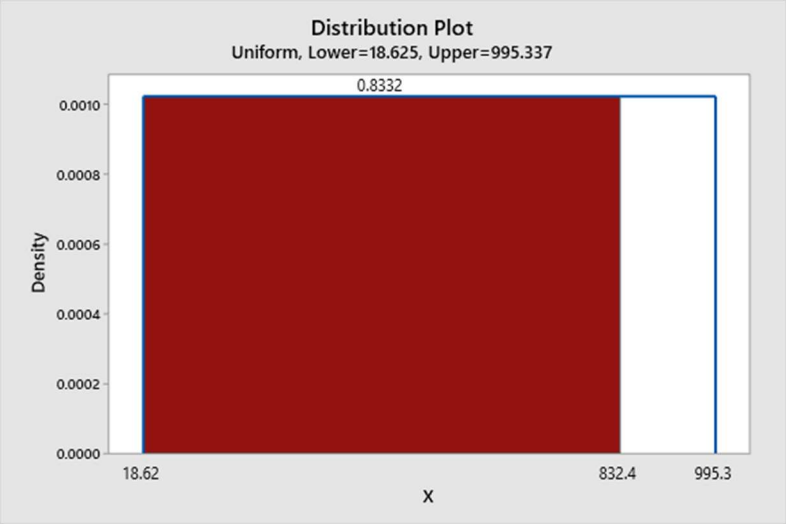
Continuous uniform on 18.6249 to 995.337

x	P(X ≤ x)
832.4	0.833178

2.C.







2.D. . Conf Int. for 95%: (453.8, 625.3) Conf Int. for 85%: (426.8, 652.3)

I used a z test here because there are over 30 points in my data set. The confidence interval increased because you are using a less precise interval. It is wrong because the distribution is uniform. A confidence interval assumes a normal distribution.

2.E. It is not normally distributed because it is a uniform distribution. It passes as normal because the sample size is small.