AP Statistics

2019-02-07 2.2 Assignment

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Pg. 131-135 41,43,47,49,51,53,55,59,63,65,68,69-74

Question 41

See "2019-02-07 2.2 Assignment - Question 41.png"

Question 43

Part A

$74 = \mu + 2 \bullet \sigma = 69 + 2.5 \bullet 2$

(1-95%)/2 = 2.5%

Part B

64 and 74 inches

Part C

(95%-68%)/2 = 13.5%

Part D

50% + (66%/2) = 83%

Question 47

Part A: 0.9978

Part B: 1-0.9978 = 0.0022

Part C: 1-0.0485.= 0.9515

Part D: 0.9931-0.0485 = 0.9446

Question 49

Part A: 0.9505-0.0918 = 0.8587

Part B: 0.9633-0.6915 = 0.2718

Question 51

Part A: z = -1.28

Part B: z = 0.41

Question 53

Part A: 17th percentile

Part B: 33%+31.06% = 64.06%

Part C: z = 0.84; length = 266+.84•16 = 279.44 days

Question 55

Part A:

z = -(.07/.04) = -1.75

z > -1.75; P = 0.9599

Part B:

z = (.13/.04) = 3.25

z > 3.25; P = 0.0006

Part C

Part A's value is desired to be larger so the train will arrive on time. However, Part B's value should be as low as possible to prevent scheduling issues.

Question 59

Part A

z = 1.28, -1.28

Part B

min = 64.5 - 1.28•2.5 = 61.3

max = 64.5 + 1.28•2.5 = 67.7

Question 63

Part A

Skewed right distribution

Center is mean of 15.586

Part B

stddev 1: 13.03643-18.13629; 68.182%

stddev 2: 10.4865-20.68622; 95.455%

stddev 3: 7.93657-23.23615; 100.000%

These results compare quite closely with the 68-95-99.7 rule.

Part C

Except for 2 outliers, the plot is quite linear, showing that the distribution is fairly linear.

Part D

I do think they are normal, particularly through the chart in C. In A, the 66/95/99.7 rule is fully followed.

Question 65

This distribution is quite normal as all of the points are in a mostly linear relationship, with the exception of a bulge at bpm 125.

Question 68

This distribution is rightly skewed due to a higher Q3-M than M-Q1 and Mean>M

Question 69: **D**

Question 70: **C**

Question 71: **B**

Question 72: **E**

Question 73: **C**

Question 74: **C**