Week 13: Self Assessment 8

Due Apr 15 at 11:59pm **Points** 10 **Questions** 10
Available Apr 3 at 8am - Apr 15 at 11:59pm 13 days **Time Limit** None
Allowed Attempts Unlimited

Instructions

Self Assessment 8 covers the topics in **Week 13** and is worth **1% of your overall grade**. You may work on the homework for as long as you like within the given window. Please note that your answers will automatically save as you key them and you are allowed multiple attempts. Again, please note, **you should only click "submit" when you are completely finished with the assignment and ready to submit it for grading**.

Also, please remember that you are to complete this assignment on your own. Any help given or received constitutes cheating. If you have any general questions about the assignment, please post to the Piazza board. **If your question involves specific references to the answer to a question or questions, please be sure to mark your post as private**.

Good luck!

Take the Quiz Again

Attempt History

	Attempt	Time	Score
KEPT	Attempt 6	less than 1 minute	10 out of 10
LATEST	Attempt 6	less than 1 minute	10 out of 10
	Attempt 5	2 minutes	9 out of 10
	Attempt 4	2 minutes	9 out of 10
	Attempt 3	2 minutes	5 out of 10
	Attempt 2	3 minutes	3 out of 10
	Attempt 1	10 minutes	2 out of 10

Correct answers are hidden.

Score for this attempt: **10** out of 10
Submitted Apr 5 at 1:33am
This attempt took less than 1 minute.

Question 1

1 / 1 pts

Which best describes Quality?

- How to make stuff
- The change in look from one item to another
- How consistent machines produce the same product
- Meeting or exceeding customers' expectations
- Fit for use

Question 2

1 / 1 pts

Which is not a dimension of product quality?

- Value
- Conformance to Specifications
- Serviceability
- Performance
- Durability

Question 3

1 / 1 pts

Statistical Process Control looks at variation as being of two types: Random and Assignable?

- (•) True
- ( ) False

Question 4

1 / 1 pts

Which one is not a property of a Random (or Common) variance?

- ( ) Inherent in the process used
- ( ) Unavoidable with current process
- ( ) Can do nothing about this
- (•) Can be identified

Use the following for Questions 5-7. Assume 3 sigma limits:

John Doe works at Precision Brakes, a supplier to Honda. A critical dimension is the rotor diameter. John has taken 10 rotors per day for the past 5 days and measured them. The data from his samples are given in the table below:

Day	Mean (mm)	Range (mm)

1	156.9	4.2
2	153.2	4.6
3	153.6	4.1
4	155.5	5.0
5	156.6	4.5

Question 5

1 / 1 pts

What are the upper and lower control limits for the R chart (Given D4 = 1.777, D3 = 0.223) ?

- UCLr = 9.48 mm, LCLr = 0.00 mm
- UCLr = 8.76 mm, LCLr = 1.32 mm
- UCLr = 5.84 mm, LCLr = 0.67 mm
- UCLr = 7.96 mm, LCLr = 1.00 mm

Question 6

1 / 1 pts

6. What are the upper and lower control limits for the x-bar chart (Given A2 = 0.308) ?

- (●) UCLx=156.54 mm, LCLx=153.78
- ( ) UCLx=157.74 mm, LCLx=152.58
- ( ) UCLx=158.94 mm, LCLx=151.38
- ( ) UCLx=159.14 mm, LCLx=150.18

Question 7

1 / 1 pts

Is this process in control?

- ( ) Yes
- ( ) No. There are points above the R chart control limits
- (●) No. There are points out of x-bar control limits
- ( ) No. There are points below the R chart control limits

Use the following for Questions 8-9:

Whole Food Inc. uses SPC to ensure its protein bars have the proper weight. Based on an in control process using 3 sigma limits, the control limits were found to be UCLr = 1.14, LCLr=0, UCLx=6.56, LCLx=5.84. Over the last 5 days, the following additional samples have been taken:

		Weight		
Sample	Bar #1	Bar #2	Bar #3	Bar #4

1	6.3	6.0	5.9	5.8
2	6.0	6.0	6.3	5.8
3	6.3	5.1	6.1	5.9
4	6.3	6.6	6.2	5.9
5	6.5	6.0	6.5	6.9

Question 8

1 / 1 pts

Is this Process Still in Control?

- No. Sample 1 outside x chart control limits
- (•) No. Sample 3 outside r chart control limits
- No. Sample 5 outside both control chart limits
- Yes

Question 9

1 / 1 pts

A similar extra-large product has a manufacturing process that creates snack bars with a process mean of 18 ounces and standard deviation of 2.5 ounces. According to Cpk is this process capable of meeting an 17.5 ounce +-2.5 requirement?

- Yes, Cpk is 2.67
- Yes, Cpk is 4
- (selected) No, Cpk is .267
- No, CpK is .4

Question 10

1 / 1 pts

Mustek makes DRAM memory chips. The process yields products with an average life of 1,800 hours with a standard deviation of 100 hours. The requirement from IBM, Dell and others is 2,400 hours +- 1,800 hours. Using Cpk is this process capable of meeting the requirement from IBM, Dell and others?

- Yes, Cpk is 8
- No, Cpk is 0.8
- (selected) Yes, Cpk is 4
- No, Cpk is 0.4

Quiz Score: **10** out of 10