Score for this attempt: **10** out of 10
Submitted Nov 17 at 8:03am
This attempt took 16 minutes.

Question 1	1 / 1 pts

1. Which best describes Quality?

○ a. How to make stuff

○ b. The change in look from one item to another

○ c. How consistent machines produce the same product

◉ d. Meeting or exceeding customers' expectations

○ e. Fit for use

Question 2	1 / 1 pts

2. Which is not a dimension of product quality?

◉ a. Value

○ b. Conformance to Specifications

c. Serviceability

d. Performance

e. Durability

Question 3

1 / 1 pts

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

◉ True

○ False

Question 4

1 / 1 pts

4. Which is not one of the four costs of quality?
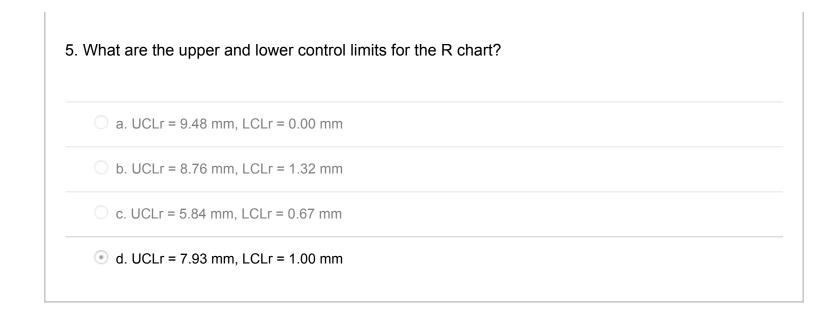
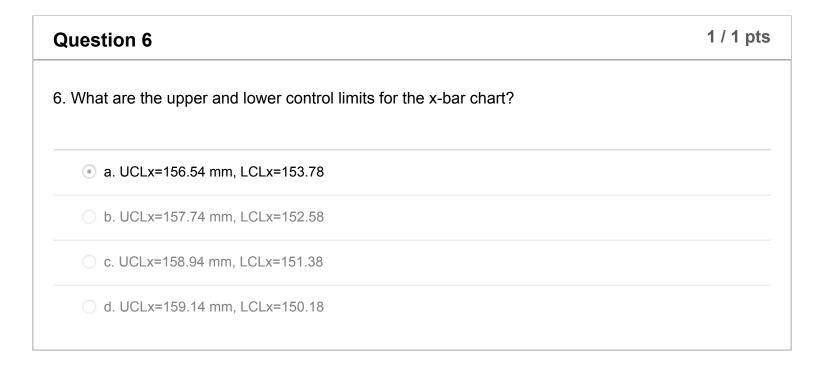○ a. Internal Failure

○ b. Appraisal

○ c. External Failure

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

5. What are the upper and lower control limits for the R chart?

○ a. UCLr = 9.48 mm, LCLr = 0.00 mm

○ b. UCLr = 8.76 mm, LCLr = 1.32 mm

○ c. UCLr = 5.84 mm, LCLr = 0.67 mm

◉ d. UCLr = 7.93 mm, LCLr = 1.00 mm

Question 6

1 / 1 pts

6. What are the upper and lower control limits for the x-bar chart?

◉ a. UCLx=156.54 mm, LCLx=153.78

○ b. UCLx=157.74 mm, LCLx=152.58

○ c. UCLx=158.94 mm, LCLx=151.38

○ d. UCLx=159.14 mm, LCLx=150.18

Question 7

7. Is this process in control?

○ a. Yes

○ b. No. There are points above the R chart control limits

⦿ c. No. There are points out of x-bar control limits

○ d. 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

8. Is this Process Still in Control?

○ a. No. Sample 1 outside x chart control limits

⊙ b. No. Sample 3 outside r chart control limits

○ c. No. Sample 5 outside both control chart limits

○ d. Yes

Question 9

1 / 1 pts

9. 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?

○ a. Yes, Cpk is 2.67

○ b. Yes, Cpk is 4

◉ c. No, Cpk is .267

○ d. No, CpK is .4

Question 10

1 / 1 pts

10. 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?

○ a. Yes, Cpk is 8

○ b. No, Cpk is 0.8

◉ c. Yes, Cpk is 4

○ d. No, Cpk is 0.4

Quiz Score: **10** out of 10