

Results

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10

Out of 10 points

03:20:16

Time for this attempt

Your Answers:

1

1 / 1 point

Knowledge of operations management is essential for which business fields?

- ☐ Accounting
- ☐ Law
- ☐ Marketing



☒ All the above

2

1 / 1 point

Which of the following is usually the most expensive costs of quality?

- ☐ Appraisal costs
- ☐ Prevention costs
- ☐ Internal failure costs



☒ External failure costs

3

1 / 1 point

What can the Statistical Process Control chart tell us?

- ☐ If product quality is normally distributed
- ☒ If a process is showing signs of any assignable cause of variation
- ☐ If a process is capable of meeting a necessary requirement

Instructions for Questions 4-7

Alicia is an engineer at Robotics Inc. A critical dimension is the length of a wire. Alicia has taken 3 wires per day and measured them for the past 5 days. Her recorded measurements in millimeters (mm) are given in the table below (Assume 3 sigma limits):

Day	Observation 1	Observation 2
1	6.43	5.86
2	5.33	4.58
3	7.14	5.22
4	6.52	6.71
5	6.41	6.15

4

1 / 1 point

Using Alicia's data, what is the value of R-bar rounded to 3 decimal places?

- ☐ 1.312
- ☒ 1.554
- ☐ 1.788
- ☐ 2.014

5

1 / 1 point

What are the upper and lower control limits for the R chart (Given $D_4 = 2.5746$, $D_3 = 0.000$), rounded to 2 decimal places?

- ☐ $LCLr = 0.22$, $UCLr = 3.84$
- ☐ $LCLr = 0.22$, $UCLr = 4.00$
- ☐ $LCLr = 0$, $UCLr = 3.84$
- ☒ $LCLr = 0$, $UCLr = 4.00$

6

1 / 1 point

What are the upper and lower control limits for the x-bar chart (Given $A_2 = 1.0233$), rounded to 2 decimal places?



LCLx = 4.41, UCLx = 7.90

☐ LCLx = 4.45, UCLx = 7.83

☒ LCLx = 4.56, UCLx = 7.74

☐ LCLx = 4.58, UCLx = 7.42

7

1 / 1 point

Plot the R chart for Alicia's data. Which statement is true about the R chart?

☐ There are 2 R data points above the UCLr line.

☐ There is 1 R data point on the LCLr line.

☐ The R-bar line is below the LCLr line.

☒ All R data points fit between the LCLr and UCLr lines.

Instructions for Questions 8-9

Quickest Trippy is a local gas station. They want to predict demand for gasoline and have the following historical data:

Month	Demand (in thousands of gallons)
1	12
2	17
3	20
4	19
5	24

8

1 / 1 point

Using $\alpha = 0.2$ and $\delta = 0.4$ as well as $F_1=11,000$ and $T_1=2,000$ what would be the Trend Component predicted for month 2 (T_2) (in thousands)?

☒ 1.92

☐ 12.8

☐ 2.10

☐ 15.18

9

1 / 1 point

Using $\alpha = 0.2$ and $\delta = 0.4$ as well as $F_1=11,000$ and $T_1=2,000$ what would be the Forecast

Including Trend for month 2 (FIT_2) (in thousands)?

☐ 15.18

☐ 12.8

☒ 14.72

☐ 17.28

10

1 / 1 point

Which of the following is not true about Exponential Smoothing's alpha?



☒ The closer alpha is to one, the more data points it uses in the forecast.

☐ It denotes importance of the past error.

☐ It determines how much the error alters the next prediction.

☐ A large alpha means the forecast is reactive.