Statistical Thinking and Problem Solving

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Time taken	2 mins 4 secs
Grade	**100** out of 100

Question 1

Correct

10 points out of 10

You are on a team that is trying to solve the following problem: The average on-time delivery rate for products in the midsize product line, over the previous six months, is 72%. Out of the following goal statements, which is the best?

Select one:

- a. Improve the on-time delivery rate for midsize products by identifying a new shipping company.
- b. Improve mid-size products from 72% to 95% by March 2020 (six months).
- c. Improve the on-time delivery rate for midsize products from 72% to 95% by March 2020 (six months). ✔
- d. Improve the on-time delivery rate for midsize products to 95% by March 2020.
- e. Improve the on-time delivery rate for midsize products from 72% to 95%.

Question 2

Correct

10 points out of 10

Which of the following tools would you use if you want to develop an understanding of the process?

Select one:

- a. cause and effect diagram
- b. brainstorming
- c. multi-voting
- d. affinity diagram
- e. SIPOC map ✔

Question 3

Correct

10 points out of 10

Which of the following is ***not*** a general step in most problem-solving approaches?

Select one:

- a. Identify, evaluate, and implement solutions.
- b. Take steps to ensure that the improvements are sustained.
- c. Identify, analyze, and confirm root causes.
- d. Find someone to blame for the problem. ✔
- e. Define the problem.

Question 4

Correct

10 points out of 10

What is the purpose of a problem statement?

Select one:

- a. to list the potential causes of the problem that the team will solve
- b. to clearly define potential solutions for the problem
- c. to lay out the steps that the team will take to solve the problem
- d. to identify the team members who will be working on the problem
- e. to make sure that everyone has the same understanding of the problem ✔

Question 5

Correct

10 points out of 10

A critical to quality characteristic (CTQ) is part weight. Your customer has very tight specifications, and you receive a complaint that there is too much batch-to-batch variation in part weight. Parts are produced in batches of 100. You measure five random parts out of every batch produced over a one-week period. At the end of the week, you have collected data from 82 batches. You use these data to study the batch-to-batch variation in part weight.

Which data collection strategy is this?

Select one:

- a. observational ✔
- b. retrospective
- c. experimental

Question 6

Correct

10 points out of 10

Which of the following is ***not*** a brainstorming ground rule?

Select one:

- a. Welcome exaggeration.
- b. Emphasize quantity over quality.
- c. Build on ideas.
- d. Record all ideas.
- e. Criticize and evaluate ideas. ✔

Question 7

Correct

10 points out of 10

You are studying the variation in coating thickness after a chemical vapor deposition process. You measure the coating thickness for 20 parts, in nanometers. What type of data is coating thickness? (Note that in JMP this is referred to as the *modeling type*.)

Select one:

- a. continuous ✔
- b. ordinal
- c. nominal

Question 8

Correct

10 points out of 10

You are trying to list potential root causes of a problem. Which tool should you use? (Select the best answer)

Select one:

- a. cause-and-effect diagram ✔
- b. input/output map
- c. affinity diagram
- d. cause-and-effect matrix
- e. multi-voting

Question 9

Correct

10 points out of 10

Which of the following is ***not*** part of a goal statement?

Select one:

- a. the time frame
- b. the desired (future) state

Question **10**

Correct

10 points out of 10

What does SIPOC stand for?

Select one:

- a. Sources, Inputs, Procedures, Outputs, Customers
- b. Systems, Inputs, Problems, Outputs, Containment
- c. Suppliers, Inputs, Process, Outputs, Customers ✔
- d. Strategy, Information, Procedure, Outcomes, Customers