

1. Which of the following statements is correct?
 - a. The higher the correlation, the better the regression estimate.
 - b. Regression estimates are better made with positive correlation than with negative correlation.
 - c. The lower the correlation, the greater the likelihood that homoscedasticity exists with respect to the predicted value.
 - d. The better the regression estimate, the greater the likelihood that homoscedasticity exists with respect to the predicted variable.

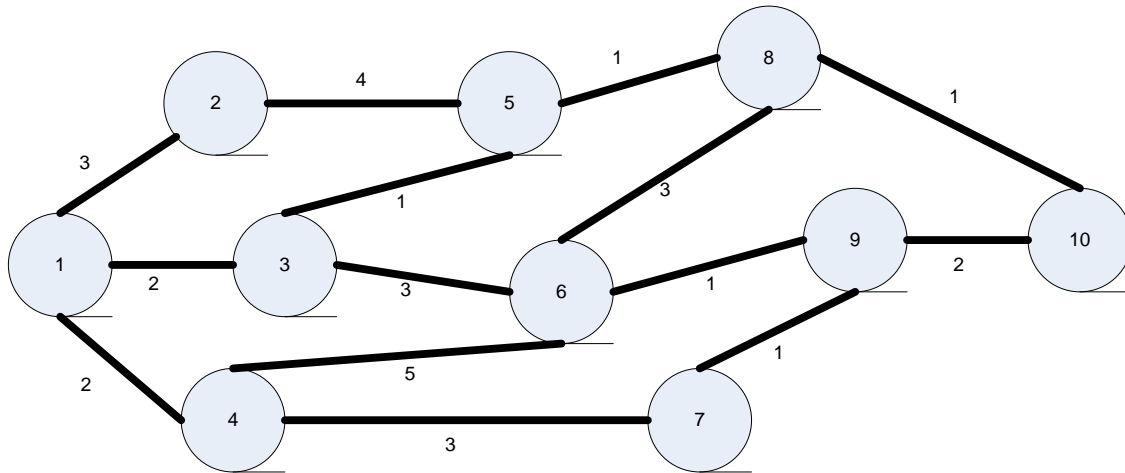
2. When planning quality control functions, which one of the following is most directly related to production of a quality product?
 - a. Process control and process capability
 - b. Suitable blueprints
 - c. Dimensional tolerancing
 - d. Product audits

3. The design of a control plan for a particular part incorporates information from a variety of sources such as flow charts, QFDs, FMEAs, designed experiments, and statistical studies. It is a tool to monitor and control the part or process. If used properly, the control plan avoids which of the following problems?
 - a. Becoming a substitute for written operator instructions
 - b. Having a listing of the critical Xs and Ys of the process
 - c. Error proofing the process through various control plans
 - d. Being used as evidence of installed controls

4. A process is in control at $\bar{X} = 100$, $\bar{R} = 7.3$, with $n = 4$. If the process level shifts to 101.5, with the same R, what is the probability that the next X point will fall outside the old control limits?
 - a. .016
 - b. .029
 - c. .122
 - d. .360

5. Using Z1.4, determine the sample size for a lot size of 300, AQL = 0.4%, Level II, normal inspection single sampling:
 - a. 30
 - b. 32
 - c. 36
 - d. 40

6. Consider the following network, with events marked within the circles and durations in weeks



The critical path is

- a. 1-3-6-8-10
 - b. 1-3-6-9-10
 - c. 1-4-6-8-10
 - d. 1-4-6-9-10
-
7. Parts in use during the “wear out” portion of the part life cycle curve will exhibit:
 - a. A constant failure rate
 - b. A decreasing failure rate
 - c. A low failure rate
 - d. An increasing failure rate

8. Which of the new quality management tools is {are} used to organize facts and data about an unfamiliar subject or problem?
- I. Affinity diagram
 - II. Header technique
 - III. KJ method
 - IV. Matrix diagram
- a. I only
 - b. I and II only
 - c. II and IV only
 - d. I and III only
9. Overproduction, scrap, waiting, and excess motion are all forms of
- a. TPM
 - b. Muda
 - c. Kanban
 - d. CFM
10. An effective plan for quality relates most nearly to which one of the following?
- a. Top management is giving their support
 - b. Product design is underway
 - c. Quality policies have already been written and are being exercised
 - d. Equipment utilization has been considered
 - e. Schedules have been established