

1. Which of the following is not included in "Results and Discussion" part in an engineering report?
 - a) Graphs.
 - b) Results relating to an objective.
 - c) Significance of results.
 - d) Difficulties encountered.
 - e) All of the above are included in "Results and Discussion" part.

2. Which of the following are not forms of technical writing?
 - a) Courtesy.
 - b) Accuracy.
 - c) Neatness.
 - d) Clarity.
 - e) All of the above are forms of technical writing.

3. A change in unit results in a change in:
 - a) Magnitude of a measurement.
 - b) Magnitude of a measurement and physical dimension.
 - c) Magnitude of physical dimension
 - d) Magnitude of physical dimensions, measurement and other units.
 - e) Nothing changes.

4. Which of the following names do not match it's corresponding letter?
 - a) K, Kelvin
 - b) Pa, Pascal
 - c) F, Farad
 - d) V, Volt
 - e) S, Second

5. What is $12.398 + 1.62 + 30 + 2 + 1.99$?
 - a) 48.008
 - b) 48.01
 - c) 47.99
 - d) 0.5×10^2
 - e) None of the above.

6. Identify the incorrect statement:
 - a) A set of precise measurements may contain significant error.
 - b) Left hand zeros are significant in fixed notation.
 - c) The significant digits of a number give a measure of the precision of the number.
 - d) Systematic and random errors can simultaneously affect a measurement.
 - e) All digits to the right of a decimal point are significant in scientific notation.

7. Several numbers have been rounded. The incorrectly computed operation to two significant figures is:
 - a) $1.7862 \rightarrow 1.8$
 - b) $36.989 \rightarrow 37$

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20. Which of the following does not define a nomography?

- a) A graphical computer consisting of arrangements of calibrated scales and lines.
- b) A graph that contains bars representing each parameter.
- c) Used where tight numerical tolerances are not required.
- d) It is read by aligning different scales.
- e) A two-dimensional diagram designed to allow the approximate graphical computation of a function.

21. Which of the following is not part of an engineering graphic?

- a) Nomography
- b) Empirical equations
- c) CAD
- d) Descriptive geometry
- e) All of the above are parts of engineering graphics.

22. Which of the following not an advantage of CAD (Computer Aided Drafting):

- a) Increase accuracy.
- b) Difficult revision.
- c) Better presentation.
- d) Improved filing
- e) All of the above are advantages of CAD.

23. What is CADD (Computer- Aided Design Drafting)?

- a) Used to solve design problems, analyze design data, store and disseminate design information.
- b) A computer based system used to design a product, devise the production steps, and electronically transfer the data to control the manufacturing equipment.
- c) Using computers to generate engineering drawings and technical documents.
- d) A computer based system that coordinates and operates all stages of manufacturing from design to finished product.
- e) None of the above.

24. All of the following define Solid Modeling except:

- a) Creates 3D virtual objects.
- b) Examples include Pro/ENGINEER
- c) Models can be virtually manipulated.
- d) The virtual objects appear as oblique projections.
- e) Represents an existing physical object.

25. Which of the following best defines the difference between drawing and sketching?

- a) Drawing is when you draw subjects in detail while sketching is a rough outline of a drawing.
- b) Drawing is rough and not precise whereas sketching is precise.
- c) Drawing is detailed while sketching is quick outlined.
- d) Sketching is about capturing the essence while drawing is time consuming.
- e) None of the above defines the difference correctly.

26. A final report is formatted in a clear way. Which of the following is not part of a final report?

44. The standard deviation is:
- The square root of the variance.
 - A measure of variability.
 - An approximate indicator of how numbers vary away from the mean.
 - Shows how tightly data are around the mean.
 - All of the above.
45. If a sample of 50 batteries is examined, how many standard deviations of the population mean expect to be 98.08 % of the data?
- 1.98
 - 2.34
 - 2.68
 - 1.24
 - None of the above.
46. Given 20 resistors. Find the population mean of 18/20 resistors if the mean is 2.5 ohms and the standard deviation is 0.95 ohms:
- $2.5 \pm t_{20,90} * 0.95$
 - $2.5 \pm z_{90} * 0.95$
 - $2.5 \pm t_{19,90} * 0.95$
 - $2.5 \pm 1.96 * 0.95$
 - None of the above.
47. For a sample of size 10 taken from a normally distributed population with standard deviation equal to 5, a 90% confidence interval for the population mean would require the use of:
- $t=1.645$
 - $t= 1.729$
 - $t=1.328$
 - $t=2.12$
 - 1.746
48. Under which of the following circumstances is it impossible to construct a confidence interval for the population mean?
- A non-normal population with a large sample and an unknown population variance.
 - A non-normal population with a large sample and a known population variance.
 - A normal population with a small sample and an unknown population variance.
 - A non-normal population with a small sample and an unknown population variance.
 - All of the above are possible.
49. A survey of 100 retailers revealed that the mean after-tax profit was \$80,000. If we assume that the population standard deviation is \$15,000, determine the 95% confidence interval estimate of the mean after-tax profit for all retailers:
- \$77,060 to \$89,240.
 - \$75,080 to \$86,250.