IED Mid-Term Exam

Name: _____ Date: _____ Period: ____ Pts. ___*0.333

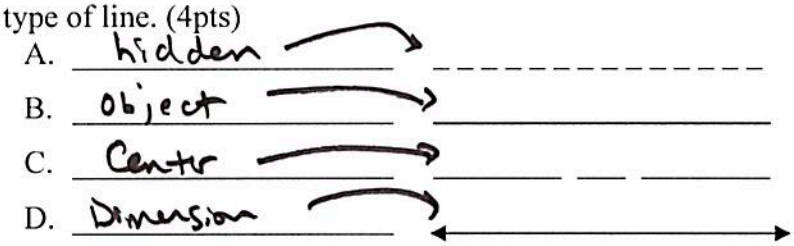
1. A(n) Engineering Notebook is a book in which an engineer will formally document, in chronological order, all work that is associated with a specific design project. (1pt)

2. Brainstorming is the process used to find a solution to a problem by collecting ideas without regard for feasibility, which occur from a group of people brought together for that specific purpose. (1pt)

3. What are the 4 rules for brainstorming? (2pts)
   1- Build on
   2- Quantity > Quality
   3- Include crazy ideas
   4- No judgements

4. Place the design process steps in order (3pts)
   2. Generate Concepts
   6. Present the solution
   1. Define a Problem
   3. Develop a Solution
   5. Evaluate the solution
   4. Construct and Test a Prototype

5. Label each type of line. (4pts)



6. dial caliper are arguably the most common and versatile of all the precision measuring tools used by engineers and manufacturers. (1pt)

7. _____ is the modification of an existing product or process. (1pt)
   A. Invention
   B. Recreation
   C. Innovation
   D. Enhancement

8. Which of the following is a recommended practice for an Engineering Notebook? (1pt)
   A. Engineering notebook entries should be made in pencil so that corrections and edits may be made easily and at any time.
   B. Sketches and other important documents should be kept neatly in a separate folder
   C. Each page of an engineering notebook should include a title, page number, the date, and the designers signature.
   D. A designer should leave blank space in the engineering notebook close to each calculation so that a colleague can check work and record comments.

9. If a single mate constraint is applied between two opposing surfaces in an assembly, how many degrees of freedom will remain between the two parts? (1pt)

A. 1
B. 2
C. 3
D. 4

10. Use the list of requirements below to answer the question.

- Must have a minimum of seven different parts once assembled
- Must have the same scale as the lead car
- Must be able to attach to the lead car

Which label best describes the list of requirements? (1pt)

A. Design statement
B. Design constraints
C. Deliverables
D. Indicators

11. Which data set has an arithmetic mean of 38? (1pt)

A. 24, 27, 35, 62
B. 28, 32, 36, 56
C. 31, 32, 38, 60
D. 19, 23, 45, 69

Wow

12. Jack and Jill are engineers developing a new electrical storage device. They have determined that the designs they wish to pursue require a technology that does not exist. Knowing this, what should Jack and Jill do next? (1pt)

A. Proceed with CAD Modeling
B. Construct and test a prototype
C. Research and develop the needed technology
D. Create a decision matrix to narrow the concepts

13. When dimensioning a three-dimensional objects what two things must always be dimensioned? (1pt)

A. Size and Shape
B. Size and Location
C. Size and Contour
D. Shape and Location

14. What dimension is still needed to define the rectangular groove below, assuming the groove is the important feature? (1pt)

A. Location in X
B. Location in Y
C. Width in X
D. Height in Y