NOCTI®

Job Ready Assessment Blueprint

CAD

Test Code: 3973 / Version: 01

"Measuring What Matters"

Specific Competencies and Skills Tested in this Assessment:

Identifying Hardware and Operating Systems

- Identify hardware and software
- Identify operating system components
- Identify and apply computer terminology

Using Hardware and Operating Systems

- View file names of a storage device
- Store, copy, move, and retrieve information to/from various drives
- Rename and backup files

Interpreting and Reading Blueprints

- Interpret basic views and dimensions in a working drawing
- Interpret bilateral, unilateral, and limit dimensions
- Identify geometric tolerance symbols
- Interpret drawings, pictures, and symbols

Creating and Manipulating Mechanical Drawing Information

- Understand Cartesian Coordinate System
- Set and manipulate drawing elements
- Create and manipulate line types and layers/levels
- Create and edit basic geometry by inputting coordinates
- Insert and manipulate text and fonts
- Create single and multiple auxiliary views of surfaces and objects
- Create and insert cells/blocks
- Insert and manipulate dimensions
- Specify geometric tolerancing on a drawing
- Generate a 2-D multiview drawing
- Generate a pictorial drawing
- Scale and print hard copy on output device

Specific Competencies and Skills continued:

Drawing and Designing Assemblies

- Create an assembly in 2-D geometry
- Create a bill of materials

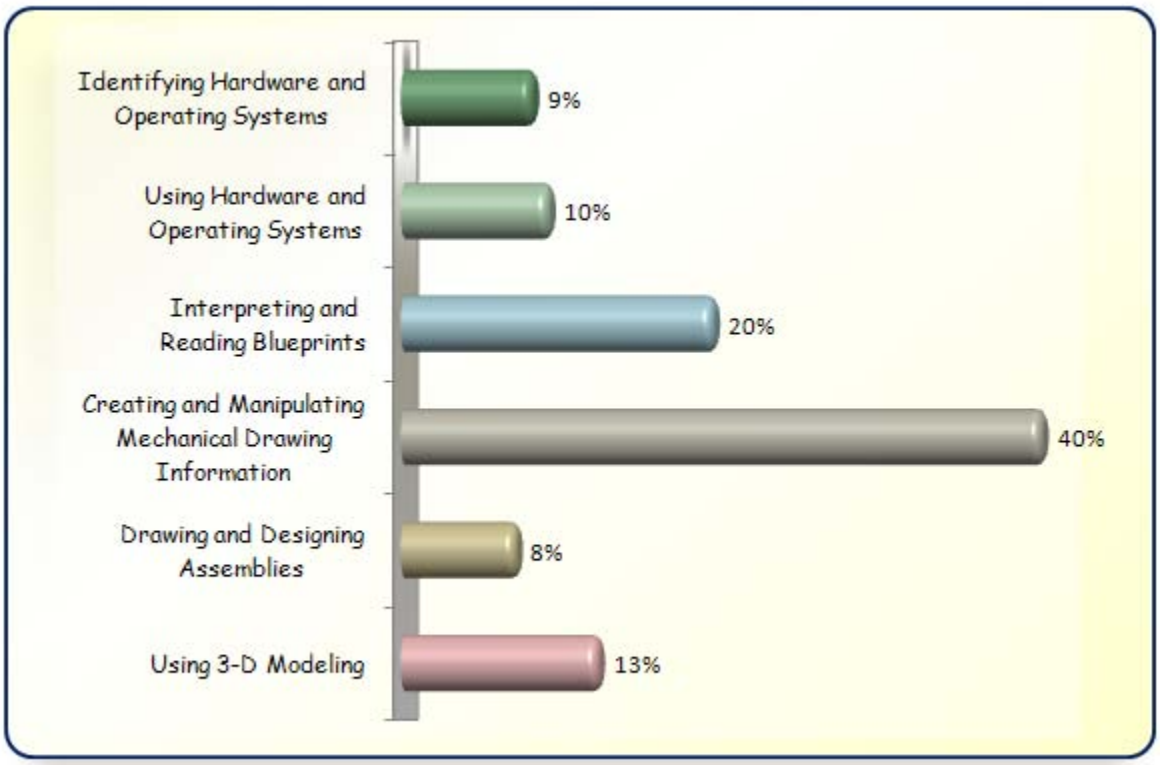
Using 3-D Modeling

- Create and manipulate construction planes
- Generate and modify geometric components on construction planes
- Create a 2-D drawing from a 3-D model
- Create a 3-D model from a 2-D drawing
- Create a 3-D model

Written Assessment:

Administration Time: 3 hours
Number of Questions: 101

Areas Covered:



Sample Questions:

The alphanumeric keyboard provides

A. output
B. input
C. storage
D. memory

The conventional views on a working diagram are set up by _____ projection.

A. perspective
B. orthographic
C. first angle
D. isometric

Various layers in a CAD system may

A. store different types of information
B. not be run simultaneously
C. have different colors and softwares
D. sort data to other machines

To create an assembly drawing, all components must be the same

A. color
B. scale
C. format
D. line type

Which of the following are 3-D objects?

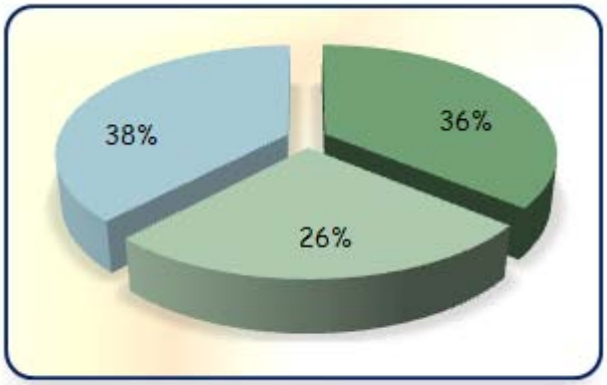
A. surfaces, solids, and Boolean operations
B. solids, wireframes, and Boolean operations
C. surfaces, mass properties, and wireframes
D. solids, surfaces, and wireframes

Performance Assessment:

Administration Time: 1 hour and 45 minutes
Number of Jobs: 3

Areas Covered:

36% **Create a 2-D Orthographic Drawing on CAD with a Section View**
Printing and plotting to scale, title block, crosshatch, views, dimensions and their placement, file saved, and timeliness of job.



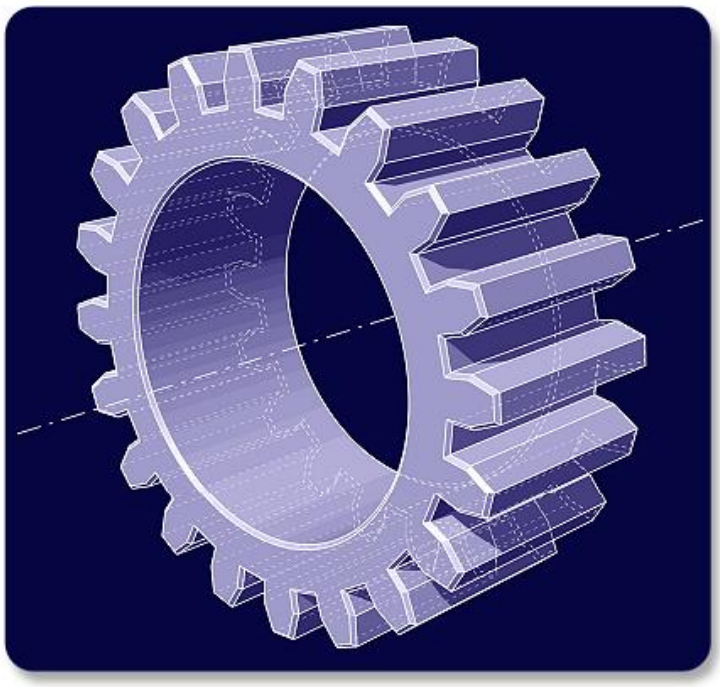
26% **Create a 3-D Solid Model**
Radius corners, holes, mass properties, file saved, and timeliness of job.

38% **Create Two Parts to be Mated and Mate the Parts**
Feature geometry part A and B, mass properties of part A and B, mating, file saved, and timeliness of job.

Sample Job: Create a 3-D Solid Model

Maximum Time: 30 minutes

Participant Activity: The participant will use the CAD system that is provided, creating a complete 3-D solid model and will save the job to a CD or disk, determine and print out the mass properties of the model.



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