

CAD-Program Specific

Standard: Materials and Processes: Identify and describe the basic elements used in computer aided drafting.

Competency: Describe physical objects as geometric entities.

A circle can be constructed through a minimum of _____ non-collinear points.

- A. 3
- B. 4
- C. 5
- D. 6

Standard: Interpreting and Reading Blueprints: Identify various symbols to interpret and read blueprints.

Competency: Interpret basic views and dimensions in a working drawing.

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

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

Standard: Creating and Manipulating Mechanical Drawing Information: Describe and demonstrate the process.

Competency: Explain the Cartesian Coordinate System.

Drawing a line from the previous point is a type of _____ input in the Cartesian coordinate system.

- A. linear
- B. angular
- C. absolute
- D. relative

Common Core - MATHEMATICS STANDARDS

Math Standard 2: Make sense of quantities and their relationships in problem situations.

Standard: Creating and Manipulating Mechanical Drawing Information: Describe and demonstrate the process.

Competency: Create and edit basic geometry by inputting coordinates.

A 2-inch diameter circle with an origin fixed at 0,0,0 will have a point on the arc located at

- A. 0,1
- B. 2,3
- C. -1,2
- D. 0,3

Math Standard 5: Consider the available tools when solving a mathematical problem.

Standard: Identifying Hardware and Operating Systems: Identify & describe basic hardware & operating systems.

Competency: Identify and describe various types of hardware and software.

The type of software that allows an engineer to perform calculations, solve equations, and produce charts and graphs is called a

- A. word processor
- B. graphics accelerator
- C. database
- D. spreadsheet

Math Standard 6: Communicate precisely to others through the use of mathematical explanations and definitions.

Standard: Creating and Manipulating Mechanical Drawing Information: Describe and demonstrate the process.

Competency: Scale and print hard copy of output device.

If a gear has a radius of 5 inches, what is the largest scale that could be used to print on an A size drawing sheet?

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

Common Core - READING STANDARDS

Reading Standard 1: Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the accounts.

Standard: Using a 3-D Model: Describe and demonstrate the process for converting 2-D drawings to a 3-D format.

Competency: Create and manipulate construction planes.

A non-standard plane needs to be defined

- A. so that the object scale will adjust automatically
- B. so that a part can be drawn on an angle using manual drafting tools
- C. because most objects in manufacturing consist of right angles
- D. because not everything is parallel to the Cartesian Coordinate system

Reading Standard 7: Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.

Standard: Drawing and Designing Assemblies: Create assemblies and views in 3-D format.

Competency: Create an exploded view of a 3-D assembly.

One of the key features of an exploded assembly drawing is that

- A. they have two organizational systems
- B. they are vertically arranged in space
- C. they show the relationship of parts
- D. they are arranged in order by size

Reading Standard 9: Synthesize information from a range of sources (e.g., tests, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.

Standard: Materials and Processes: Identify and describe the basic elements used in computer aided drafting.

Competency: Evaluate and select appropriate method of communication for a given problem.

Within a large agribusiness company, several people are part of the business development team. This team is discussing a possible contract with an Asian company. Half the team members like the idea. The other half of the team members are strongly against the idea because they feel that the deal involves too much financial risk. When there are conflicts within a team on how to handle an issue, what should the team do?

- A. Think of compromise solutions or solutions that will use part of several people's ideas.
- B. Stop the meeting until everyone is willing to agree.
- C. Call an executive and ask him or her to choose the best solution.
- D. Stop talking about the issue and move on to other areas where team members can agree.