

## 2023 Technical Contest Instructors Reference Information

To: South Carolina Technical Drafting Teachers

From: Troy McCurry, Retired, Abbott

Subject: 2023 SKILLS USA State Technical Drafting Contest

It is my pleasure to have this opportunity to coordinate the Technical Drafting Contest this year. Our goal is that the contest problem realistically reflects the standard of work being done in the industry today. While you may not teach all the aspects covered in the contest, you can make the problem a learning experience for the student.

### **Instructors:**

In this contest, the student will be asked to:

1. Make 3D models and detail drawings from scaled layout sheets as a guide

Following is information with which the student should be familiar:

1. Understanding and applying the Theory of Orthographic Projection.
2. Drawing two-dimensional orthographic projections from given three dimensional views.
3. Understanding incline and oblique surfaces.
4. Knowing how and be able to determine use of single and double auxiliary views.
5. Purpose, theory and different types of sectioning.
6. Representing different material through cross-hatching.
7. Correct tolerancing terminology, dimensioning techniques, styles and methods.
8. Symbol applications.
9. Types, dimensioning, procedures and techniques of pictorial drawings.
10. Use of materials and manufacturing processes and quality control.
11. Power transmissions and sheet metal developments
12. Calculations of mass properties including but not limited to volume, density and force.
13. Calculations of volume measurements from mathematical problems

The problem will not measure the individual CAD savvy, but will measure their technical drawing proficiency, creative thinking and problem solving.

The Technical Drafting Committee wants this to be a positive experience for the students, with each one going into the contest with the desire to be a winner.

I look forward to seeing each of you along with your student at the contest.

TLM