



## Results by Standard

# 2024-2025 Technical Skills Assessment Drafting and Design

Legend (%)		
0-50%	51-75%	76-100%

Assessment: Drafting and Design Number tested: 23	% Correct 21-22	% Correct 22-23	% Correct 23-24	% Correct 24-25
<b>CONTENT STANDARD 2.0: DRAFTING FUNDAMENTALS</b>	56.48%	59.54%	63.20%	65.67%
<b>Performance Standard 2.1: Geometric Constructions</b>	57.86%	59.91%	60.32%	59.39%
2.1.1. Define geometric terms and recognize various geometric shapes by name.	48.11%	56.86%	50.00%	34.48%
2.1.2. Use lines, circles, and arcs to construct regular and irregular geometric shapes.	86.79%	84.31%	85.71%	79.31%
2.1.4. Divide lines and bisect angles and arcs.	58.49%	60.13%	69.84%	66.67%
2.1.6. Calculate area, perimeter, and volume of geometric shapes to include circle, square, rectangle, and triangle.	54.09%	53.59%	49.21%	62.07%
<b>Performance Standard 2.2: Measuring and Scaling Techniques</b>	60.94%	64.12%	68.10%	73.45%
2.2.1. Explain the concept of scaling of objects.	39.62%	40.20%	54.76%	67.24%
2.2.2. Determine appropriate engineering, architectural, and metric scales.	62.26%	64.71%	69.84%	78.16%
2.2.3. Measure object size, area, and volume utilizing appropriate industry devices.	67.92%	74.51%	71.43%	68.97%
2.2.6. Determine and apply the equivalence between fractions and decimals.	72.96%	83.66%	80.95%	80.46%
2.2.7. Convert between customary (i.e., SAE, Imperial) and metric systems.	56.60%	41.18%	47.62%	55.17%
<b>Performance Standard 2.3.: Conventional Drafting Practices</b>	62.26%	58.33%	69.05%	75.86%
2.3.1. Identify and select appropriate drafting media.	45.28%	50.98%	66.67%	72.41%
2.3.5. Produce drawings from sketches.	67.92%	61.76%	64.29%	77.59%
2.3.7. Demonstrate drawing revision control.	67.92%	58.82%	80.95%	75.86%
<b>Performance Standard 2.4.: Multi-View Drawings using Orthographic Projection</b>	48.18%	52.42%	54.92%	55.86%
2.4.1. Determine the principle view of an object.	47.17%	50.98%	44.44%	55.17%
2.4.2 Identify, create, and arrange multi-view drawings.	68.55%	67.32%	74.60%	64.37%
2.4.3. Identify, create, and arrange sectional views.	43.40%	46.41%	38.10%	54.02%
2.4.4. Identify, create, and arrange primary auxiliary views.	44.34%	43.14%	73.81%	63.79%

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<b>Number tested: 23</b>	<b>21-22</b>	<b>22-23</b>	<b>23-24</b>	<b>24-25</b>
2.4.5. Identify multiple projection theories (first angle, third angle).	53.77%	63.73%	61.90%	62.07%
2.4.6. Apply appropriate measurement units.	24.53%	39.22%	40.48%	32.76%
<b>Performance Standard 2.5: Dimensions and Annotations</b>	66.04%	73.20%	69.84%	80.46%
2.5.1. Differentiate appropriate dimension standards.	39.62%	58.82%	61.90%	79.31%
2.5.2. Arrange dimensions and annotations using appropriate standards.	79.25%	80.39%	73.81%	81.03%
<b>Performance Standard 2.6: Pictorial Drawings</b>	22.64%	33.33%	80.95%	51.72%
2.6.2. Create isometric drawings.	22.64%	33.33%	80.95%	51.72%
<b>Performance Standard 2.7: Hand Sketching Techniques</b>	81.13%	83.33%	83.33%	93.10%
2.7.4. Utilize the alphabet of lines.	81.13%	83.33%	83.33%	93.10%
<b>CONTENT STANDARD 3.0: FUNDAMENTAL CADD SKILLS</b>	44.38%	50.89%	53.74%	61.90%
<b>Performance Standard 3.1.: Basic Computer and IT Skills</b>	35.22%	41.18%	38.10%	62.07%
3.1.5. Use industry reliable media to acquire information to complete drafting problems.	32.08%	34.31%	28.57%	60.34%
3.1.6. Use Industry reliable media to acquire information to complete drafting problems.	41.51%	54.90%	57.14%	65.52%
<b>Performance Standard 3.2: Drawing Environment</b>	38.36%	42.05%	50.26%	50.96%
3.2.1. Select appropriate existing title blocks	84.91%	90.20%	95.24%	82.76%
3.2.2. Set drafting settings	42.14%	39.22%	55.56%	45.98%
3.2.3. Determine and apply scaling factors, including plotting and printing	43.40%	56.86%	33.33%	31.03%
3.2.4. Assign line weights, line types, and colors.	20.75%	41.18%	38.10%	41.38%
3.2.5. Utilize template files.	16.98%	35.29%	47.62%	58.62%
3.2.6. Utilize sheets/layouts for plotting/printing.	26.42%	18.63%	35.71%	53.45%
<b>Performance Standard 3.3: Geometric Shapes and Objects using Cartesian Coordinate System</b>	59.43%	59.80%	64.29%	77.59%
3.3.1. Describe and utilize the Cartesian Coordinate System to create geometric shapes and objects (x, y, z).	86.79%	76.47%	71.43%	82.76%
3.3.2. Calculate input coordinates.	32.08%	43.14%	57.14%	72.41%
<b>Performance Standard 3.4: CADD Commands</b>	59.75%	71.24%	71.43%	73.56%
3.4.2. Utilize geometric relationships to ensure accuracy (i.e., endpoint, midpoint, and center).	57.55%	64.71%	69.05%	75.86%
3.4.3. Utilize CADD commands to create and modify objects.	64.15%	84.31%	76.19%	68.97%
<b>Performance Standard 3.5: Annotations</b>	45.75%	58.33%	54.76%	69.83%
3.5.2. Arrange text based on industry standards.	37.74%	66.67%	52.38%	68.97%
3.5.4. Arrange dimensions based on industry standards (may include dual dimensioning).	20.75%	31.37%	14.29%	48.28%
3.5.5. Use industry standard symbols to annotate drawings.	62.26%	67.65%	76.19%	81.03%
<b>CONTENT STANDARD 5.0: ARCHITECTURAL DRAFTING AND DESIGN</b>	52.92%	60.98%	68.10%	78.45%
<b>Performance Standard 5.1: Architectural Design</b>	58.83%	59.89%	69.26%	78.06%

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<b>Number tested: 23</b>	<b>21-22</b>	<b>22-23</b>	<b>23-24</b>	<b>24-25</b>
5.1.1. Identify and describe different architectural styles.	66.51%	63.73%	75.00%	90.52%
5.1.2. Identify construction terminology, materials and building codes.	46.70%	50.00%	60.71%	66.38%
5.1.3. Identify architectural annotation standards.	64.15%	69.61%	64.29%	72.41%
5.1.4. List and describe construction drawings.	66.04%	64.71%	90.48%	86.21%
<b>Performance Standard 5.2: Architectural Views and Details related to Design Criteria</b>	45.70%	62.31%	66.67%	78.93%
5.2.1. Apply architectural design concepts to plan views.	45.28%	47.06%	66.67%	82.76%
5.2.2. Create an exterior elevation from an existing floor plan.	25.16%	72.55%	61.90%	80.46%
5.2.3. Create interior elevations.	86.79%	72.55%	85.71%	89.66%
5.2.4. Create building sections and details.	42.77%	49.67%	60.32%	74.71%
5.2.5. Produce schedules.	75.47%	74.51%	80.95%	72.41%
<b>CONTENT STANDARD 6.0: MECHANICAL DRAFTING AND DESIGN</b>	40.25%	50.33%	52.38%	60.92%
<b>Performance Standards 6.1.: Drafting Concepts related to Basic Manufacturing Processes</b>	39.43%	49.80%	49.05%	60.00%
6.1.2. Describe standard machine processes.	67.92%	82.35%	76.19%	79.31%
6.1.3. Utilize standard welding/machining symbols per ANSI and ASME.	34.91%	40.20%	57.14%	62.07%
6.1.5. Create scaled working drawings using dimensions, tolerances, and other specifications for machine tool, fabrication, and/or welding processes.	18.87%	42.16%	30.95%	43.10%
6.1.6. Create thread and fastener representations and utilize thread designations.	26.42%	23.53%	47.62%	62.07%
6.1.7. Create assembly drawings with a bill of materials table.	77.36%	71.57%	64.29%	81.03%
<b>Performance Standards 6.2: Geometric Dimensioning and Tolerancing (GDK&amp;T) Standards</b>	41.89%	51.37%	59.05%	62.76%
6.2.1. Understand datums utilized for tolerancing.	32.08%	32.35%	45.24%	62.07%
6.2.2. Utilize basic dimensioning for GD&T toleranced features.	48.43%	64.05%	68.25%	63.22%