

How to Find Area of a Sketch in SolidWorks?

Description

This article provides clear, step-by-step answers to frequently asked questions about calculating areas, volumes, and other properties in SolidWorks, DraftSight, and AutoCAD. Whether you're a beginner or an experienced user, these practical tips will help you optimize your workflow and achieve accurate results in your designs.

How to Find Area of a Sketch in SolidWorks?

To find the area of a sketch in SolidWorks, follow these steps:

1. Click **Tools > Inquiry > Get Area** (or type GetArea in the command line).
 2. Select the **Entity** option to evaluate regular geometric areas like circles, ellipses, arcs, or polyline contours.
 3. In the graphics area, select a drawing entity. The area and perimeter measurements will display.
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How to Find Area and Volume in SolidWorks?

To find area and volume in [SolidWorks](https://caddikt.com/):

1. Open the **FeatureManager Design Tree** and select the desired body or component.
 2. Go to the **Evaluate** tab in the CommandManager and click **Mass Properties**.
 3. The **Mass Properties** dialog box will display the calculated area and volume for the selected body.
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How to Find the Surface Area of a Shape?

The **total surface area** is the sum of all areas covering the outside of a 3D object. To calculate:

1. Add the areas of the base, top, and lateral surfaces (sides).
 2. Use appropriate formulas for the object's geometry.
 3. Measurements are in square units.
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How to Find the Cross-Sectional Area in SolidWorks?

To find the cross-sectional area:

1. Click **Cross Section** in the toolset.
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2. Drag the plane along the axis to the desired location.
 3. Release the **Cross Section** tool to display the area.
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How to Find Area in DraftSight?

To measure area in DraftSight:

1. Click **Measure** on the Tools toolbar or go to **Tools > Evaluate > Measure**.
 2. Select the planar surface or object to display the model's projected surface area.
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Can You Find the Volume of a Part in SolidWorks?

Yes, you can calculate the volume of a part:

1. Navigate to the **Evaluate** tab in the CommandManager.
 2. Select **Mass Properties**.
 3. The dialog box will show the calculated volume of the part or body.
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What Is the Surface Area of a Shape?

Surface area is the amount of space covering the outside of a 3D shape. It is measured in square units and varies depending on the geometry of the object.

How to Find the Surface Area of Different Shapes?

To find surface area for various shapes:

1. Use appropriate formulas for the object's geometry (e.g., spheres, cylinders, cubes).
 2. Add the areas of all surfaces of the object.
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What Is Cross-Sectional Area?

Cross-sectional area is the area obtained when a plane cuts through an object perpendicular to its axis of symmetry. It is a two-dimensional projection of the object's internal structure.

How to Find the Centroid of a Sketch in SolidWorks?

To find the centroid:

1. Open the sketch in SolidWorks.
 2. Use **Tools > Mass Properties**.
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3. The centroid coordinates will be displayed in the **Mass Properties** dialog box.
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What Is Projected Surface Area?

Projected surface area is the two-dimensional area of a 3D object projected onto a plane. It is commonly used in engineering applications like wind pressure and stress calculations.

How to Find Area Units in AutoCAD?

To find area units in AutoCAD:

1. In the **Properties** ribbon, check the displayed area (e.g., sq/mm).
 2. To convert units, click the calculator icon next to the area value.
 3. Use the **Units Conversion** tool to change the measurement to the desired units (e.g., sq/m).
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How to Show Area in AutoCAD?

To show area in AutoCAD:

1. Type Area: followed by a space in the text area.
 2. Right-click and choose **Insert Field**.
 3. In the Field dialog box, select **Objects** from the Field Category drop-down menu.
 4. Choose **Object** from Field Names and click the **Select Objects** button.
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How to Find the Area of Multiple Objects in AutoCAD?

To calculate the area of multiple objects:

1. Use the **Measure > Area** tool.
 2. Select all the objects whose combined area you want to calculate.
 3. AutoCAD will display the total area in the command line.
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How to Calculate the Area of a Projection?

For circular projections, use the formula:

[$A = \pi r^2$] For example, if the diameter is 20 feet, the radius is 10 feet, and the projected area is approximately **314 square feet**.

How to Find the Projected Area of a Cylinder?

To find the total projected area of a cylinder:

[$A = 2\pi r (r + h)$] This includes the areas of the two circular bases and the curved surface.

What Is a Projected View in SolidWorks?

A **projected view** in SolidWorks is created by folding off an existing view in one of eight possible directions. The view orientation depends on whether **First Angle** or **Third Angle** projection is selected in the drawing sheet properties.

How to Find the Volume of a Part in SolidWorks 2021?

To calculate volume in SolidWorks 2021:

1. Right-click in the graphics area and select **Volume Select** from the context toolbar.
 2. Go to **Tools > Component Selection > Volume Select**.
 3. The volume will be displayed in the **Mass Properties** dialog box.
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How to Find Internal Volume?

To calculate internal volume:

1. Multiply the **height, width, and depth** together.
 2. Ensure all dimensions are in the same unit.
 3. The result is in cubic units (e.g., cubic inches or cubic feet).
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How Does SolidWorks Calculate Internal Volume?

To calculate internal volume in SolidWorks:

1. Open the part.
 2. Use the **Intersect** tool from the Features toolbar.
 3. In the PropertyManager, select **Create Internal Regions** and click **Intersect**.
 4. The calculated internal volume will be displayed.
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