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# SOLIDWORKS ADD-INS TRAINING

COURSE OUTLINE

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## COURSE OUTLINE / SOLIDWORKS ADD-INS

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## SOLIDWORKS COMPOSER – 3 DAYS (21H)

### 1. Getting Started

- What is the SOLIDWORKS Composer Application?
- Notes on SOLIDWORKS Composer
- SOLIDWORKS Composer terminology
- SOLIDWORKS Composer user interface
- View
- Navigation Tools
- Updating Views
- Collaborative Actors
- Camera Views
- Transform
- Creating 2D Output
- View Mode/Animation Mode

### 2. Creating Cover and Detail Images

- Rendering tools
- Camera and Alignment tools
- Custom Rendering
- Digger

### 3. Creating an Exploded View

- Visibility tools
- Exploded Views
- Collaborative Actors
- Styles
- Vector Graphics Output

### 4. Creating Additional Exploded Views

- Importing Files
- Paper Space
- Update views With Selected Actors
- Align Actors
- Explode Lines
- Custom Views
- Linking Between Views

### 5. Creating Bills of Materials

- Bills of Materials
- Vector Graphics Output
- Another BOM Table
- Assembly Level BOM
- Assembly Selection Mode

### 6. Creating a Marketing Image

- Selections
- Textures
- Lighting
- Scenes
- High Resolution Image

### 7. Creating Animations

- Timeline Pane
- Location Keys

### 8. Creating Interactive Content

- Views for Animation
- Improving the Animation
- Digger Keys
- Selections in the Key Track
- Events
- Animating and Collaborative Actors

### 9. Creating a Walkthrough Animation

- Camera Keys
- Grids
- Additional Camera Functionality

## Part 2 →

**Course Objectives :** At the end of each course, students will know the capabilities of the software and will be able to use the learned features.

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**Competences Evaluation :** During the classwork, the instructor will correct the exercises on-demand and explain the solutions to the entire class if needed.

**Instructor :** SolidXperts trainers are Certified SolidWorks Instructors (CSWI) and authorized by Emploi-Québec.

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**Attestation :** A certificate will be given to each student at the end of the course to attest to the successful completion of the requirements for the course.

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## SOLIDWORKS COMPOSER (PART 2)

### 10. Adding Special Effects to Animations

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- Animation Library Workshop
- Animation Special Effects
- Assembly Selection Mode in Animations
- Scenarios

### 11. Updating SOLIDWORKS Composer Files

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- Update an Entire Assembly
- Changing the Geometry of an Actor

### 12. Working with Projects

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- What are Projects?
- Product Files
- Product Orientation

### 13. Publishing from SOLIDWORKS Composer

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- Preparing a File for Publishing
- Publishing to PDF
- Publishing Inside Microsoft PowerPoint
- Publishing to HTML
- Linked SVG Files
- Publishing Multiple Views

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## SOLIDWORKS VISUALIZE – 2 DAYS (14H)

### 1. CAD to SOLIDWORKS Visualize

- Rendering from CAD
- Importing to Visualize
- Render Selection
- Denoiser
- Appearances
- File Libraries
- Scenes
- Color Picker
- Rendering

### 2. Import Settings and Appearances

- Import Settings
- Appearances
- Project Description
- Part Grouping
- Structure and Organization
- Selection Tools
- Object Manipulation
- Split
- Copy and Paste
- Appearance Types
- Textures
- Texture Mapping
- Appearance Parameters
- Merge Parts

### 3. Decals

- Decals
- Decal Feature
- Blend Texture
- Multi-Layer Decal Process
- Decal Depth
- Decal Mapping

### 4. Cameras

- Cameras
- Aspect Ratio
- Keep Above Floor
- Perspective
- Camera Orientation
- Grid Overlay
- Depth of Field
- Filters

### 5. Backplates, Environments and Lights

- Scenes
- Backplates
- Environments
- New Cutting Plane
- Lights

### 6. Productivity tools

- Multiple Views
- Render All Cameras
- Time Limit Rendering
- Output Viewer
- Configurations
- Exports
- Render All Configurations
- Render Queue
- Patterns
- Visualize Boost

## Part 2 →

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## SOLIDWORKS VISUALIZE (PART 2)

### 7. Animation and Grouping

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- Animations
- Groups
- Animation Output
- Motion Blur
- Keyframe Animation

### 8. Camera Animations

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- Camera Animations
- Camera Movement with the triad
- Keyframe Properties

### 9. Animating Appearances, Scenes

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- Appearance and Scene Animations
- Scene Animations

### 10. Alternative outputs

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- Alternative Outputs
- Turntable
- Interactive View
- Panoramic View
- Sunlight Animation
- 360° Camera

### 11. Simulations

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- Simulated physics
- Shake simulation
- Simulation manager
- Simulation states
- Vehicle simulations
- Physics Animations

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## SOLIDWORKS INSPECTION – 1 DAY (7H)

\*This training's duration is about half a day but we will complete it with personalized coaching on your models or examples files.

### 1. Inspection Add-in

- What is SOLIDWORKS Inspection?
- Inspection project
- SOLIDWORKS Inspection manager
- Export inspection data
- Design revision
- Manual Ballooning
- Working with 3D documents

### 2. Standalone Application

- User interface
- Inspection project
- Manual Extract
- General characteristic tools
- Table manager
- Managing of characteristics
- Grids
- Multiple Documents
- Publishing reports
- Drawing revisions

### 3. SOLIDWORKS Inspection Professional

- Loading the inspection professional Add-in
- Measurements Input
- Publishing reports with inspection results
- CMM data import

### 4. Appendix A: Inspection Report Templates

- Inspection Report Templates
- Template Editor

### 5. Appendix B: Understanding Regular Expressions

- Regular Expressions

### 6. Appendix C: Glossary of Quality Terms

- Terminology

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## SOLIDWORKS MBD – 1 DAY (7H)

### 1. Introduction to SOLIDWORKS MBD

- What is SOLIDWORKS MBD?
- MBD Using Feature Dimensions
- Sharing 3D Views
- 3D PDF Capabilities
- MBD Using DimXpert
- DimXperts Capabilities
- eDrawings and MBD
- eDrawings Capabilities
- STEP 242 Files
- MBD and Assemblies

### 2. Using Feature Dimension and Annotation Views

- Using Feature Dimensions with MBD
- Default Annotations Views
- Optimizing Settings
- Adding and Organizing Annotations
- Adding Reference Dimensions
- Modifying Dimensions
- Creating a Section Annotation View
- Editing an Annotation View
- Unassigned Items
- Creating an Annotation View
- Note Area
- Using Tables

### 3. Capturing 3D Views

- 3D Views
- 3D Views Tab
- Capture 3D View
- Activating and Modifying 3D Views
- Using 3D Views Options
- Publishing PMI
- Special 3D View Types
- Model Break View

### 4. 3D PDF Template Editor

- 3D PDF Template Editor
- Areas of the Template
- Text Types
- Other Template Aspects
- Building a Custom Template
- Saving and Storing Custom Templates
- Testing the Templates

### 5. Using DimXpert

- What is DimXpert?
- DimXpert Settings
- DimXpert Block Settings
- DimXpert Dimension Settings
- How DimXpert works
- Auto Dimension Scheme
- DimXpertManager
- Show Tolerance Status
- Modifying DimXpert Annotations
- Combining Dimensions
- Creating Multiple Schemes
- Manual DimXpert Annotations
- Feature Selector Toolbar
- Using DimXpert Dimension Tools
- Unique DimXpert Options

### 6. MBD and Assembly Models

- Assembly Models and MBD
- Assembly Level Dimensions
- Optimizing Settings in Assemblies
- Adding Assembly Annotations
- BOM Tables and Balloons
- Publishing Assembly PMI
- Additional MBD Tools

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## SOLIDWORKS CAM STANDARD – 2 DAYS (14H)

### 1. SOLIDWORKS CAM Basics and User Interface

- What is SOLIDWORKS CAM?
- SOLIDWORKS CAM User Interface
- Overview
- SOLIDWORKS CAM Feature Tree
- Operation Plans
- Toolpaths

### 2. Automatic Feature Recognition (AFR) and Operation Modification

- Working with Features, Operations, and Toolpaths
- Automatic Feature Recognition
- Feature Strategy
- Modifying Operations
- Modifying Parameters
- Design Changes

### 3. Interactive Feature Recognition (IFR)

- Interactive Feature Creation
- 2.5 Axis Features
- Part Perimeter Feature
- Mill Part Setup
- Work Coordinate Offsets
- Selection Filters

### 4. Interactive Operations

- Interactive 2.5 Axis Mill Operations
- Create operations
- Save Operation Plan

### 5. Merging Features and Operations

- Machining Similar Features
- Create Group
- Combine Operations
- Link Operations

### 6. Avoid and Contain Areas

- Adding “Avoid” and “Contain” Areas

### 7. Pattern Features and Mirror Toolpaths

- Patterning
- Mirror Toolpaths

### 8. Advanced Features and Operations

- Advanced Feature Creation
- Engrave Feature
- Curve Feature
- Multi-stepped Hole
- Tap and Thread Mill Hole Operation
- Corner Round and Chamfer Machining
- Multi Surface Feature

### 9. Customizing the Technology Database

- SOLIDWORKS CAM Technology Database (TechDB)
- User Defined Tool Creation
- Mill Machine
- Mill Tool
- Tool Crib
- Strategies

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PMT2565-ENG

## SOLIDWORKS CAM PROFESSIONAL – 1.5 DAY (10H)

\*The "SOLIDWORKS CAM Standard" training is required for this class.

\*\*Since our clients generally use only 50% of the training's content, this course is shortened to 1 day and is adjusted with personalized coaching based on your manufacturing process.

\*\*\*If you want to get the whole course content, we can offer this class on a 2 days schedule. Please contact your account manager.

### 1. SOLIDWORKS CAM Configurations

- SOLIDWORKS CAM Product Review
- SOLIDWORKS CAM Configurations
- Working With CAM Configurations

### 2. High Speed Machining (VoluMill™)

- VoluMill Overview
- VoluMill Settings
- VoluMill Technology Expert

### 3. Assembly Machining

- SOLIDWORKS CAM Assembly Mode
- Part Manager
- Assembly Machining - Programming with Subroutines
- Machining - Multiple Parts
- Machining Split Instance
- Split Setup

### 4. 3 Plus 2 Machining

- 3 Plus 2 machining (Indexing)
- Assembly machining with a tombstone

### 5. Turning Basics

- SOLIDWORKS CAM Turning
- Setup
- Chuck/Fixture
- Stock
- Machinable Features
- New Turn Feature

### 6. Chucks, ID Features and Operations

- Section Method
- Using plane section
- Double Chucking
- Modifying Feature and Operation Parameters
- Editing toolpaths

### 7. Modifying Feature and Operation Parameters

- Custom chuck, OD and thread features
- Editing toolpaths

### 8. Probing

- Introduction to Probing

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PMT2566-ENG

## SOLIDSTEEL ADVANCED ENGINEERING PACKAGE / 2,5 DAYS (18H)

Prerequisites: Students should have a general knowledge of SOLIDWORKS.  
Students should have experience creating 3D sketches, parts and assemblies.

### 1. Introduction

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- Introduction to the use of the software
- User-specific setting

### 2. Profiles & Connections

---

- Profiles and profile cuts
- Creation of individual profile cross-section and sizes
- Typical steel connections
- Bolted connections

### 3. Assembly Manager

---

- Introduction to the Assembly Manager
- Working with the Assembly Manager

### 4. Stairs & Railings

---

- Working with stairs and railings
- Creation of individual railing templates

### 5. Administration & Management

---

- Standard parts management
- Administration of the bolt manager
- Teaching in bolt sets

### 6. BOM & Drawings

---

- Changing the drawing templates
- Creation of BOM templates
- Detection of identical parts
- DXF export for all sheet metal parts

### 7. Advanced Tools

---

- License server administration

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## SOLIDSTEEL DESIGN PACKAGE / 3 DAYS (21H)

Prerequisites: Students should have a general knowledge of SOLIDWORKS.  
Students should have experience creating 3D sketches, parts and assemblies.

### 1. Introduction

---

- Introduction to the use of the software
- User-specific setting

### 2. Profiles & Connections

---

- Profiles and profile cuts
- Creation of individual profile cross-section and sizes
- Typical steel connections
- Bolted connections

### 3. Assembly Manager

---

- Introduction to the Assembly Manager
- Working with the Assembly Manager

### 4. Stairs & Railings

---

- Working with stairs and railings
- Creation of individual railing templates

### 5. Administration & Management

---

- Standard parts management
- Administration of the bolt manager
- Teaching in bolt sets

### 6. BOM & Drawings

---

- Changing the drawing templates
- Creation of BOM templates
- Detection of identical parts
- DXF export for all sheet metal parts

### 7. Industrial Facades & Roof

---

- Workflow overview

### 8. Advanced Tools

---

- SDNF interface
- Bidirectional data exchange with 3D structural analysis software
- License server administration

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## SOLIDSTEEL DSTV ASSISTANT / 0,5 DAY (4H)

Prerequisites: Students should have a general knowledge of SOLIDWORKS.  
Students should have experience creating 3D sketches, parts and assemblies.

### 1. Introduction

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- Activation of the SOLIDWORKS add-in
- Overview of the interface

### 2. Database

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- Files locations / Path settings
- Naming schematics
- Database settings (Part 1)

### 3. Creation of NC Data

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- Preparation of parts & assemblies for the Export
- Export NC files

### 4. Analyzed Parts

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- SolidSteel parametric profiles
- Identified/Unidentified solid bodies
- Change / Provide information
- Quickstart & Quick export for assembly
- Export of analyzed parts
- Signatures, markings & powder lines

### 5. Costing Module

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- Configuring database
- Creating / Changing a machine
- Creating setup rules & new tools
- Creating a costing analysis

### 6. General Settings

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- Dimension references
- Contour settings
- Filter settings
- Export template settings

### 7. Administration

---

- Database settings (part 2)
- Database management

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## INTRODUCTION TO VISUAL BASIC.NET – 2 DAYS (14H)

### 1. Introduction

---

### 2. The Basic Interface

---

### 3. Code

---

- Types of variables
- Definition of variables
- The message box

### 4. Compilation

---

### 5. VB Tools

---

- Benchmarks
- Breakpoints
- Keyboard Shortcuts

### 6. Loops

---

- For...Next
- Do...Loop
- Force output

### 7. If Statements

---

### 8. The Select Case Statement

---

### 9. The Interface of Your Programs

---

- Interface Language
- Activation checks
- Other interface parameters

### 10. Posts

---

- Simple message
- Message to capture the response

### 11. Goto

---

### 12. Conventions

---

- Variable names
- Method names
- Argument names

### 13. Variables List

---

- The array
- The collection

### 14. The Timer Control

---

### 15. Operators

---

### 16. The Text File

---

- Reading a text file
- Writing to a text file

### 17. File Manager

---

- File operations
- Operations on files

### 18. Creating a Method

---

- Sub-type method
- The method of type function

### 19. Manipulate the Registry

---

- Management options in the registry

### 20. Windows

---

### 21. Operations on Text

---

- Text comparison
- Conversion values
- Extracting a portion of text
- Extracting data from a file path
- Splitting text
- Replacement values

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## SOLIDWORKS API FUNDAMENTALS – 2 DAYS (14H)

\*The "Introduction to Visual Basic.net" training is required for this class.

### 1. Using the Macro Recorder

- Macro Recording
- Macro Toolbar
- Understanding How Macro Code Works
- Understanding How to Call Members on API interfaces
- Passing Parameters
- Cleaning Up Code
- Adding Forms to a Macro

### 2. The API Object Model

- SOLIDWORKS API Object Model
- Application Objects
- Connecting to New Documents
- Connecting to Existing Documents

### 3. Setting System Options and Document Properties

- User Preferences – System Options
- User Preferences – Document Properties
- Locating the Correct APIs and Enumeration Values
- User Preferences Tables for System Option, Document Properties and Menu Items

### 4. Automating Part Design

- Automation Tool for Parts

### 5. Assembly Automation

- Automation Tool for Assemblies

### 6. Drawing Automation

- Automating Drawing Creation

### 7. Selection and Traversal Techniques

- Programming with a Selected Object
- The SOLIDWORKS BREP Model
- Body and Face Traversal
- Feature Manager Traversal

### 8. Adding Custom Properties and Attributes

- Custom Properties
- Configurations with Custom Properties
- File Summary Information
- Document Attributes
- The Attribute Objects
- Face Attributes

### 9. The SOLIDWORKS API SDK

- The API SDK
- Creating a VB.NET Add-In
- Creating a C# Add-in
- C++ Add-Ins
- Choosing a Programming Language

### 10. Customizing the SOLIDWORKS User Interface

- Customizing the UI With VB.NET
- Understanding The Add-in Code
- Property Pages
- Property Page Groups and Controls
- Removing Menus and Toolbars
- Other Areas of Customization

### 11. Notifications

- Notifications
- Notifications in VBA
- Simple Notification
- Using Notifications in .NET

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PMT2515-ENG

## DRAFTSIGHT ESSENTIALS / 1,5 DAYS (10H)

\*This course is aimed at new users of 2D CAD drawing software.  
\*Not suggested for experienced users of software such as AutoCAD, TurboCAD, etc.

### 1. User Interface

- What is DraftSight?
- The User Interface
- Stages in the Process
- Pointing Device
- Title Bar
- Toolbars
- Dock and Undock
- Tool palettes - Customizing

### 2. View Commands

- Viewing Drawings in DraftSight
- Stages in the Process
- Dynamic Pan
- Dynamic Zoom
- Zoom Window
- Zoom Fit
- Rebuild
- Display Quality
- Zoom Previous
- Named Views
- View Tiles
- Viewports

### 3. Coordinates

- Coordinated System
- Cartesian Coordinates
- Inquiries
- Units
- Base Angle
- Coordinate Entry
- Quick Input
- Entity Snap
- Drawing Boundary

### 4. Creating a Simple Drawing

- DraftSight Drawing Basics
- New Drawings
- Lines
- Delete
- Selection Methods
- Rectangle
- Circle
- Undo / Redo
- Arc
- Polygon

### 5. Modifying Entities

- Modifications
- Move
- Rotate
- Mirror
- Stretch
- Copy
- Scale
- Quick Modify
- Power Trim

### 6. Properties and Layers

- Layers
- Layer States
- Locked Layers
- Layer Manager
- Entity Properties
- Property Painter
- Merge Layers

### 7. Dimensions

- Dimensions
- Dimension Styles
- Smart Dimension
- Linear Dimension
- Angular Dimension
- Diameter Dimension
- Dimension Palette
- Continue Dimensions
- Split Dimension

## Part 2 →

**Course Objectives :** At the end of each course, students will know the capabilities of the software and will be able to use the learned features.

**Training Course :** Training is given in class at SolidXperts or online where each student has access to a workstation or online product version.

**Methodology :** Training is based on case studies demonstrated by the instructor. At the end of each lesson, time will be given for exercises.

**Competences Evaluation :** During the classwork, the instructor will correct the exercises on-demand and explain the solutions to the entire class if needed.

**Instructor :** SolidXperts trainers are Certified SolidWorks Instructors (CSWI) and authorized by Emploi-Québec.

**Course Materials :** One or more training manuals are included with the training course.

**Attestation :** A certificate will be given to each student at the end of the course to attest to the successful completion of the requirements for the course.

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## DRAFTSIGHT ESSENTIALS (PART 2)

### 8. Text

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- Text
- Text Styles
- Simple Notes
- Notes
- Note Formatting
- Smart Leaders
- Curved Text
- Find and Replace
- Spell Check

### 9. Blocks

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- Blocks
- Stages in the Process
- Make Blocks
- Paste as Block
- Insert Block
- Edit Component
- Assign Attributes
- Update Block Attributes
- Block Attributes Display Mode
- Edit Attributes

### 10. Custom Blocks

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- What are Custom Blocks?
- Edit Blocks
- Mirror Elements
- Mirror Activity
- Visibility States

### 11. Entity Groups

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- Creating Entity Groups
- Edit Entity Groups

### 12. Printing

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- Printing in DraftSight
- Print Previews
- Print Configurations
- Quick Print
- Manual setup
- Additional Options
- Style Table

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## POWER SURFACING / 1 DAY (7H)

### 1. Basic Operations

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- Basic Manipulations
- Extrude
- Insert Loops

### 2. Operations (Continued)

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- Hard Line
- Define Boundary

### 3. SOLIDWORKS Body References

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- Import References
- Constrain to...
- Auto Update All Constrains

### 4. Spatial Constrains

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- Retain Offset Constrain
- Retain Ratio Constrain

### 5. Advanced Operations

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- Advanced Manipulations
- Thicken
- Symmetry

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