

CONTENTS

Introduction xix

CHAPTER 1 Getting to Know AutoCAD 1

- Starting AutoCAD 2
 - Exploring the New Features Workshop 2
 - The Customer Involvement Program 4
 - Exploring the AutoCAD User Interface 4
- Introducing the AutoCAD Graphics Window 7
- Working in the Command Window 12
- Using the Drop-Down Menus 13
- Using the Toolbars 14
 - Accessing the Toolbar Fly-Out Menus 15
 - Displaying and Arranging Toolbars 16
 - Customizing Toolbars 21
 - Workspaces 21
- Using the Keyboard 22
- Using the Mouse 23
- Are You Experienced? 24

CHAPTER 2 Learning Basic Commands to Get Started 25

- Using the Line Command 26
 - Using Coordinates 30
 - Using Relative Coordinates 32
- Drawing the Box 35
 - Using Relative Cartesian Coordinates 35
- Erasing Lines 36
- Controlling How the Selection Tools Are Displayed 37
- Using Relative Polar Coordinates 37
- Using the Offset Command 38
- Using the Fillet Command 41
- Completing the Box 44
 - Offsetting Lines to Mark an Opening 44

Extending Lines	46
Trimming Lines	47
If You Would Like More Practice...	51
Are You Experienced?	52

CHAPTER 3 Setting Up a Drawing 53

Setting Up the Drawing Units	54
Setting Up the Drawing Size	58
Using the Grid	59
Setting Up Drawing Limits	62
Drawing with Grid and Snap	66
Taking a Closer Look at Dynamic Display	69
Saving Your Work	72
Summarizing AutoCAD's Units	74
Using Linear Units	74
Using Angular Units	75
Are You Experienced?	76

CHAPTER 4 Gaining Drawing Strategies: Part 1 77

Laying Out the Walls	78
Creating a Polyline	78
Creating the Exterior Wall Lines	82
Creating the Interior Walls	84
Cutting Openings in the Walls	92
Creating Doors	100
Drawing Swinging Doors	100
Copying Objects	108
Mirroring Objects	110
Finishing the Swinging Doors	112
Drawing a Sliding Glass Door	114
If You Would Like More Practice...	124
Creating an Alternate Sliding-Glass Door	124
Creating an Addition to the Cabin	125
Drawing Three Views of a Block	126
Are You Experienced?	128

CHAPTER 5 Gaining Drawing Strategies: Part 2 129

Drawing the Steps and Thresholds	132
Drawing the Front Step	132
Drawing the Back Step	136
Drawing the Thresholds	139
Drawing the Balcony: Drawing Circles	142
Laying Out the Kitchen	146
Drawing the Counter	147
Drawing the Stove and Refrigerator	150
Completing the Stove	151
Drawing the Kitchen Sink	155
Constructing the Bathroom	157
Setting Running Object Snaps	157
Drawing a Shower Unit	159
Drawing the Bathroom Sink	162
Positioning a Toilet	163
If You Would Like More Practice	168
Drawing the Cabin Again	168
Drawing Something Else	168
Drawing Some Furniture for the Cabin	168
Drawing a Gasket	169
Drawing a Parking Lot	171
Are You Experienced?	172

CHAPTER 6 Using Layers to Organize Your Drawing 173

Using Layers as an Organization Tool	174
Setting Up Layers	176
Assigning Objects to Layers	189
Turning Off and Freezing Layers	198
Drawing the Headers	200
Drawing the Roof	203
Assigning an Individual Linetype Scale Factor	207
Setting Properties of Layers and Objects	213
Creating Layer States	214
If You Would Like More Practice	218
Experimenting with Linetypes and Linetype Scales	218
Setting Up Layers for Your Own Trade or Profession	219
Are You Experienced?	220

CHAPTER 7	Combining Objects into Blocks	221
	Making a Block for a Door	222
	Inserting the Door Block	226
	Using Dynamic Blocks	235
	Finding Blocks in a Drawing	236
	Using Grips to Detect a Block	236
	Using the List Command to Detect a Block	236
	Using the Properties Palette to Examine a Block	239
	Creating a Window Block	240
	Inserting the Window Block	245
	Rotating a Block During Insertion	246
	Using Guidelines When Inserting a Block	249
	Using Object Snap Tracking and Polar Tracking to Insert a Block	251
	Finishing the Windows	256
	Revising a Block	259
	Sharing Information Between Drawings	263
	Dragging and Dropping Between Two Open Drawings	263
	Using AutoCAD's DesignCenter	266
	Using Other Ways to Share Information Between Drawings	272
	If You Would Like More Practice...	279
	Are You Experienced?	280
CHAPTER 8	Controlling Text in a Drawing	281
	Setting Up Text Styles	282
	Determining Text and Drawing Scale	282
	Defining a Text Style for Room Labels	284
	Using Single-Line Text	288
	Placing Titles of Views in the Drawing	288
	Placing Room Labels in the Floor Plan	290
	Using Text in a Grid	296
	Creating a Title Block and Border	306
	Using Multiline Text	322
	Exploring Other Aspects of Multiline Text	332
	If You Would Like More Practice...	337
	Are You Experienced?	338

CHAPTER 9 Using Dynamic Blocks and Tables 339

Using Attributes for a Grid 340

 Defining Blocks with Attributes 345

 Inserting Blocks with Attributes 346

 Editing Attribute Text 348

Setting Up Multiple Attributes in a Block 350

 Defining a Block with Multiple Attributes 353

 Inserting the Room_Info Block 357

 Controlling the Visibility of Attributes 359

 Editing Attributes 360

 Exploring Other Uses for Attributes 362

Creating a Dynamic Block 363

 Setting Up Parameters and Actions 365

 Fine-Tuning the Dynamic Block with the Properties Palette 367

 Inserting a Dynamic Block 369

Creating a Table 375

 Defining a Table Style 375

 Designing a Table 378

If You Would Like More Practice 385

Are You Experienced? 386

CHAPTER 10 Generating Elevations 387

Drawing the Front Elevation 388

 Setting Up Lines for the Heights 390

 Using Grips to Copy Lines 392

 Trimming Lines in the Elevation 395

 Drawing the Roof in Elevation 398

 Putting in the Door, the Step, and the Windows 402

 Adding the Finishing Touches 408

Generating the Other Elevations 409

 Making the Rear Elevation 409

 Revising the Rear Elevation 412

 Making the Left and Right Elevations 416

Considering Drawing Scale Issues 422

Drawing Interior Elevations 422

If You Would Like More Practice 423

Are You Experienced? 424

CHAPTER 11 Working with Hatches and Gradients	425
Hatching the Front Elevation	426
Looking at Hatch Patterns	430
Hatching the Rest of the Front Elevation	432
Adding Special Effects	437
Using Hatches in the Floor Plan	442
Hatching the Floors	442
Finishing the Hatches for the Floors	445
Modifying the Shape of Hatch Patterns	448
Creating and Managing Tool Palettes	449
Creating a New Tool Palette	450
Setting Up a Palette for Hatches	452
Creating a Palette for Commands	454
If You Would Like More Practice	455
Creating a Hatch Pattern for the Roof in Plan View	455
Creating Your Hatch Palette	457
Are You Experienced?	458
CHAPTER 12 Dimensioning a Drawing	459
Introducing Dimension Styles	460
Making a New Dimension Style	460
Placing Dimensions on the Drawing	476
Placing Horizontal Dimensions	477
Using Other Types of Dimensions	486
Using Radial Dimensions	486
Using Leader Lines	490
Using Aligned and Angular Dimensions	494
Modifying Dimensions	498
Modifying Dimension Text	499
Using Dimension Overrides	503
Dimensioning Short Distances	504
If You Would Like More Practice	506
Dimensioning the Garage Addition	506
Dimensioning to a Centerline	507
Doing Other Exercises	509
Are You Experienced?	510

CHAPTER 13 Managing External References 511

Drawing a Site Plan.	512
Using Surveyor's Units	512
Drawing the Driveway.	516
Setting Up an External Reference	520
Using the External References Palette	520
Moving and Rotating an Xref	522
Modifying an Xref Drawing	525
Modifying an Xref by Making It the Current Drawing.	525
Modifying an Xref from Within the Host Drawing	528
Adding an Image to a Drawing	532
Putting Xrefs to Use.	533
Exploring Additional Xref Features	535
Setting the Xref Path	535
Binding Xrefs.	537
Exploring the Other Features of Xrefs	538
If You Would Like More Practice.	539
Are You Experienced?	540

CHAPTER 14 Using Layouts to Set Up a Print 541

Setting Up Layouts	542
Moving the Border to the Layout	549
Creating the Paper Space Viewport.	551
Setting the Viewport Scale	553
Copying the Layouts.	555
Adjusting a Viewport's Contents	557
Aligning Viewports	564
Aligning Viewports for LT.	566
Locking and Turning Viewports Off	566
If You Would Like More Practice.	569
Are You Experienced?	570

CHAPTER 15	Printing an AutoCAD Drawing	571
Using the Plot Dialog Box		572
Printer/Plotter.		575
Paper Size and Number of Copies.		575
Plot Area		575
Plot Scale		580
Plot Offset and Plot Options		581
The Expanded Plot Dialog Box		583
Printing a Drawing		584
Determining Lineweights for a Drawing.		584
Setting Other Properties of Layers		588
Setting Up the Other Parameters for the Print.		588
Previewing a Print		589
Printing a Drawing Using Layouts.		591
Printing a Drawing with Multiple Viewports.		593
Publishing Multiple Layouts.		595
A Few Words About Plot Styles		597
Introducing Plot-Style Table Files.		597
Are You Experienced?		606
CHAPTER 16	Creating 3D Geometry	607
Modeling in 3D		608
Setting Up a 3D Workspace.		608
Making the Walls		613
Creating the Door and Window Block-Outs		616
Cutting the Openings		621
Creating the Floor, Steps, and Thresholds		622
Completing the Doors and Windows.		625
Building the Balcony		633
Putting a Roof on the Cabin		634
Using the Orbit Tools		637
Getting Further Directions in 3D		639
Using Other Solids Modeling Tools.		639
Using Surface-Modeling Tools.		641
Are You Experienced?		642

CHAPTER 17 Materials and Rendering	643
Creating Cameras to Reproduce Views	644
Creating the Cameras	644
Creating a Lighting Scheme	648
Creating a Light Source	648
Enabling Shadows	651
The First Render	652
Controlling the Background of the Rendering	654
Adding Materials	656
Rendering to a File	661
Are You Experienced?	664
<i>Glossary</i>	665
<i>Index</i>	679