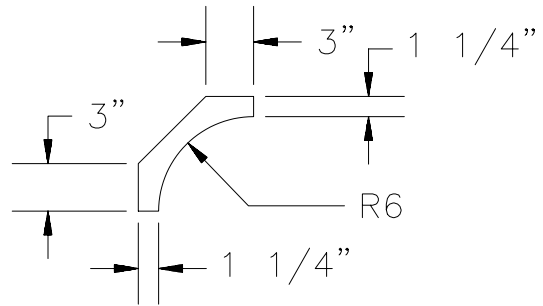


CHAPTER 40 EXERCISES

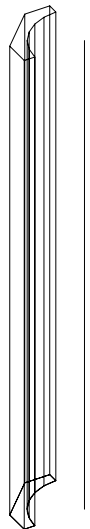
1. Create a surface model of a length of ceiling molding. First, create the 2D geometry shown in Figure AR40-1 on the XY plane. Use *Pedit* to convert the shape into one *Pline*. Next, create a center axis by drawing a 5' *Line* in the Z direction.

Figure AR40-1



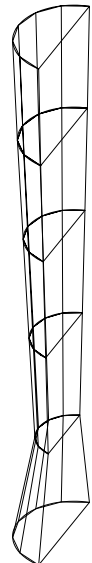
Finally, use the *Tabsurf* command. For the *path curve* select the object and for the *direction vector* select the *Line*. Your finished molding should look like that in Figure AR40-2.

Figure AR40-2



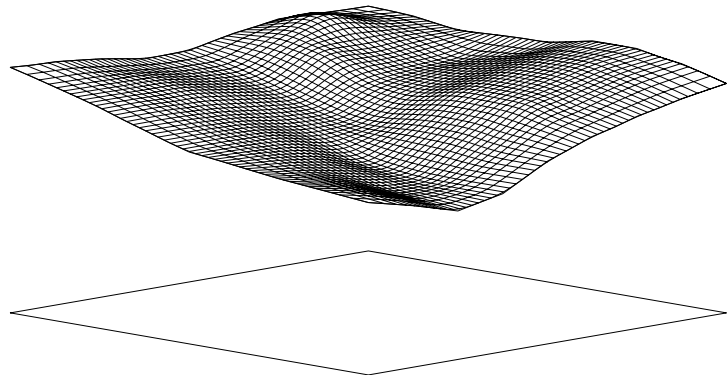
2. *Open* the drawing from Exercise 4 of Chapter 39. *Erase* the *Slice* you made of the spindle, leaving only the six sections. *Explode* those *Regions* and use the *Rulesurf* command to create the surfaces as shown in Figure AR40-3.

Figure AR40-3



3. Begin a new drawing called **3DSITE**. Use the following commands and coordinate values to create the drawing shown in Figure AR40-4.

Figure AR40-4



3dmesh, 17, 17

0,0,594 75,0,580 150,0,565 225,0,550 300,0,534 375,0,515 450,0,498 525,0,480 600,0,464
675,0,458 750,0,451 825,0,444 900,0,437 975,0,432 1050,0,427 1125,0,422 1200,0,417

0,75,590 75,75,579 150,75,564 225,75,549 300,75,534 375,75,516 450,75,497 525,75,480
600,75,464 675,75,457 750,75,447 825,75,437 900,75,430 975,75,423 1050,75,417
1125,75,411 1200,75,404

0,150,589 75,150,578 150,150,563 225,150,548 300,150,535 375,150,517 450,150,496
25,150,480 600,150,465 675,150,455 750,150,444 825,150,431 900,150,422 975,150,414
1050,150,406 1125,150,399 1200,150,391

0,225,583 75,225,570 150,225,562 225,225,548 300,225,530 375,225,513 450,225,494
525,225,477 600,225,464 675,225,450 750,225,436 825,225,421 900,225,408 975,225,398
1050,225,388 1125,225,385 1200,225,375

0,300,577 75,300,559 150,300,561 225,300,548 300,300,536 375,300,509 450,300,492
525,300,475 600,300,463 675,300,444 750,300,428 825,300,412 900,300,395 975,300,373
1050,300,372 1125,300,365 1200,300,359

0,375,568 75,375,555 150,375,552 225,375,539 300,375,527 375,375,503 450,375,483
525,375,465 600,375,450 675,375,430 750,375,410 825,375,400 900,375,387 975,375,377
1050,375,376 1125,375,373 1200,375,371

0,450,558 75,450,550 150,450,543 225,450,530 300,450,518 375,450,497 450,450,475
525,450,456 600,450,437 675,450,415 750,450,394 825,450,386 900,450,380 975,450,380
1050,450,381 1125,450,381 1200,450,382

0,525,559 75,525,550 150,525,540 225,525,524 300,525,509 375,525,490 450,525,472
525,525,456 600,525,444 675,525,435 750,525,428 825,525,423 900,525,420 975,525,415
1050,525,411 1125,525,412 1200,525,412

0,600,560 75,600,548 150,600,537 225,600,518 300,600,500 375,600,484 450,600,468
525,600,456 600,600,450 675,600,455 750,600,461 825,600,461 900,600,460 975,600,451
1050,600,441 1125,600,442 1200,600,442

0,675,572 75,675,568 150,675,563 225,675,552 300,675,536 375,675,517 450,675,502
 525,675,485 600,675,478 675,675,487 750,675,495 825,675,494 900,675,494 975,675,480
 1050,675,480 1125,675,472 1200,675,462

0,750,583 75,750,588 150,750,594 225,750,584 300,750,578 375,750,549 450,750,519
 525,750,513 600,750,507 675,750,519 750,750,532 825,750,530 900,750,529 975,750,529
 1050,750,507 1125,750,495 1200,750,483

0,825,590 75,825,600 150,825,624 225,825,594 300,825,570 375,825,549 450,825,526
 525,825,523 600,825,521 675,825,534 750,825,545 825,825,545 900,825,545 975,825,539
 1050,825,515 1125,825,509 1200,825,496

0,900,599 75,900,628 150,900,648 225,900,603 300,900,563 375,900,548 450,900,531
 525,900,533 600,900,535 675,900,547 750,900,560 825,900,560 900,900,561 975,900,549
 1050,900,536 1125,900,525 1200,900,513

0,975,597 75,975,612 150,975,624 225,975,595 300,975,570 375,975,553 450,975,533
 525,975,541 600,975,548 675,975,561 750,975,574 825,975,575 900,975,576 975,975,564
 1050,975,552 1125,975,539 1200,975,524

0,1050,595 75,1050,597 150,1050,600 225,1050,588 300,1050,576 375,1050,556
 450,1050,536 525,1050,548 600,1050,562 675,1050,573 750,1050,586 825,1050,589
 900,1050,592 975,1050,579 1050,1050,568 1125,1050,553 1200,1050,537

0,1125,593 75,1125,594 150,1125,594 225,1125,583 300,1125,573 375,1125,565
 450,1125,556 525,1125,563 600,1125,560 675,1125,581 750,1125,594 825,1125,595
 900,1125,597 975,1125,585 1050,1125,576 1125,1125,561 1200,1125,546

0,1200,592 75,1200,590 150,1200,587 225,1200,579 300,1200,571 375,1200,574
 450,1200,577 525,1200,579 600,1200,579 675,1200,590 750,1200,602 825,1200,602
 900,1200,602 975,1200,591 1050,1200,584 1125,1200,570 1200,1200,555

Vpoint, 3,-3,.75

SURFU, 50

SURFV, 50

SPLINETYPE, 5

Pedit, L, S, X

Zoom, .6X

Layer, S, *SIDE*

Line 0,0,0 1200,0,0 1200,1200,0 0,1200,0 C

3Dpoly 0,0,594 0,75,590 0,150,589 0,225,583 0,300,577 0,375,568 0,450,558 0,525,559
 0,600,560 0,675,572 0,750,583 0,825,590 0,900,599 0,975,597 0,1050,595 0,1125,593
 0,1200,592

3Dpoly 1200,0,417 1200,75,404 1200,150,391 1200,225,375 1200,300,359 1200,375,371
 1200,450,382 1200,525,412 1200,600,442 1200,675,462 1200,750,483 1200,825,496
 1200,900,513 1200,975,524 1200,1050,537 1200,1125,546 1200,1200,555

3Dpoly 0,0,594 75,0,580 150,0,565 225,0,550 300,0,534 375,0,515 450,0,498 525,0,480
600,0,464 675,0,458 750,0,451 825,0,444 900,0,437 975,0,432 1050,0,427 1125,0,422
1200,0,417

3Dpoly 0,1200,592 75,1200,590 150,1200,587 225,1200,579 300,1200,571 375,1200,574
450,1200,577 525,1200,579 600,1200,579 675,1200,590 750,1200,602 825,1200,602
900,1200,602 975,1200,591 1050,1200,584 1125,1200,570 1200,1200,555

4. Complete the 3D mesh drawing by using *Rulesurf* to connect the top curve to the bottom. See Figure AR40-5. *Save* the drawing.

Figure AR40-5

