

# 8 Tests comprehension of canned cycles

Name: \_\_\_\_\_

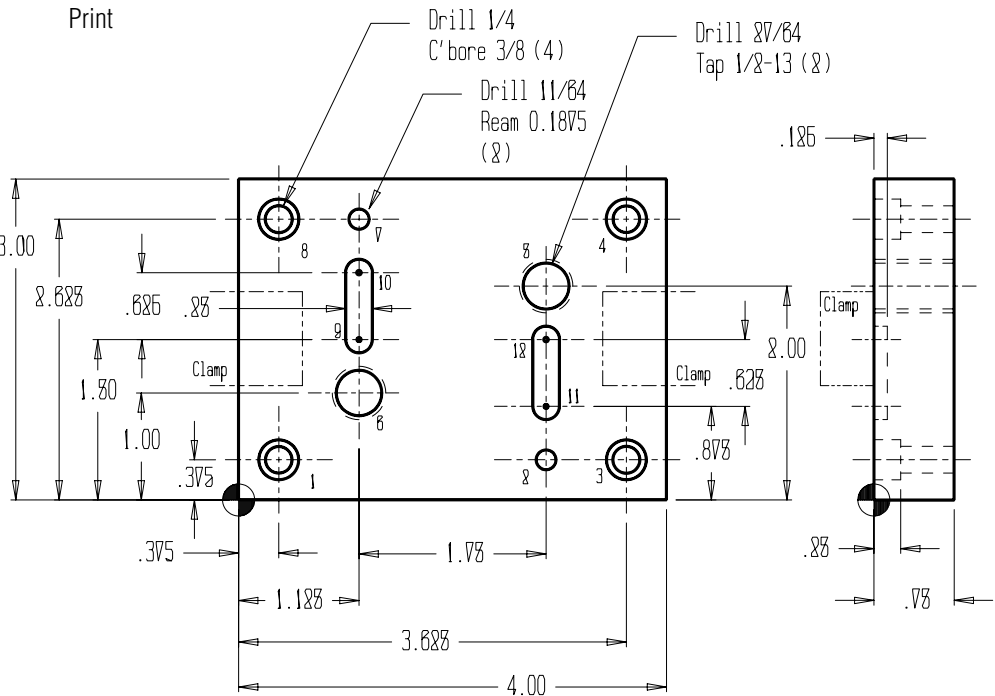
Date: \_\_\_\_\_

Score (97 possible):

**Instructions:** *First* study the print and process to ensure that you understand what the program will be doing. *Second*, fill in the coordinate sheet. *Third*, specify in the process list which cycle type (by G code) you intend to use for each operation. *Finally*, write the program for this workpiece. Use the format for a vertical machining center using fixture offsets.

Use canned cycles for all operations except the milled slots. For the slots, simply plunge in at one end, feed across the slot, and rapid out.

Note the position of the two clamps holding the workpiece at each end. You will likely have to clear these clamps at least two or three times in your program. Use the initial plane (with G98/G99) to do so.



Seq.	Operation description	Tool	Station	Speed	Feed	Cycle type
1	Mill (2) slots	1/4 center cut end mill	1	900 rpm	2.0 ipm	
2	Center drill all holes	#3 center drill	2	1200 rpm	4.0 ipm	
3	Drill (4) 1/4 holes	1/4 drill	3	1100 rpm	4.5 ipm	
4	Counter bore (4) 3/8 holes	3/8 end mill (no pilot)	4	700 rpm	5.5 ipm	
5	Drill (2) 11/64 holes through workpieces	11/64 drill	5	1400 rpm	3.0 ipm	
6	Ream (2) 0.1875 holes through workpiece	0.1875 reamer	6	1000 rpm	5.0 ipm	
7	Drill (2) 27/64 holes	27/64 drill	7	550 rpm	6.0 ipm	
8	Tap (2) 1/2-13 holes (with tension/comp. holder)	1/2-13 tap	8	400 rpm	30.7 ipm	

Point	X	Y	Z
1			
2			
3			
4			
5			
6			

Point	X	Y	Z
7			
8			
9			
10			
11			
12			