CNC Test

Name:

Start Time:

Address:

Finish Time:

Telephone:

Email:

Social Security Number: (or green card number)

Drivers License Number:

I agree to allow Paul Downs Cabinetmakers to run a background check based on the information provided above. I also agree to a drug test if Paul Downs Cabinetmakers requests it.

Signed:

Date:



401 E. 4th St. • Bldg. 8, 4th Floor • Bridgeport, PA • 19405 Phone: 610 239-0142 Fax: 610 239-0732 • www.pauldowns.com • e-mail: pauldowns@pauldowns.com All Designs copyright Paul Downs Cabinetmakers 2005 Questions 1 to 13 are math questions. Please write in the answers.

Assume 1" = 25.4mm:

Convert to inches.	
20mm = inches	
5cm =inches	
8.75mm = =inches	
4. Convert 0.625 to a fraction:	
6. 2 1/2" - 5/8" =	
8. 7/16" + 5/16" =	
10. (2 1/2) / (5/8) =	
a piece that is 60" long?	
13.	
	$20mm = \inches \\ 5cm = \inches \\ 8.75mm = = \inches \\ 4. Convert 0.625 to a fraction: \i \\ 5. 2 1/2" - 5/8" = \i \\ 3. 7/16" + 5/16" = \i \\ 10. (2 1/2) / (5/8) = \i \\ 10. (2 1/2) / (5/8) = \i \\ 13. \\ 13.$

 107.00°
 A

 What is angle A?
 What is angle B?

Questions 14 to 18 refer to the section of tape measure below:



Questions 19 to 22 are comparisons. Look over the two lists below to determine if both lists are identical. If word or number differs, make an "X" to the left of the line.

Example:

	[x] Center Stiles: 4 @ 2 x 30 x 15/16	Center Stiles: 3 @ 2 x 30 x 15/16
19.	[] Bottom Rail: 1 @ 6 x 56 1/2 x 15/16	Bottom Rail: 1 @ 6 x 56 1/2 x 15/16
20.	[] Side Panels: 2 @ 14 1/4 x 22 1/2 x 3/4 p	ly Side Panels: 2 @ 14 1/8 x 22 1/2 x 3/4 ply
21.	[] Door Rails: 8 @ 2 x 20 9/16 x 3/4	Door Stiles: 8 @ 2 x 20 9/16 x 3/4
22.	[] Drawer Bottoms: 4 @ 15 1/16 x 20 x 1/4	ply Drawer Bottoms: 4 @ 15 1/16 x 20 x 1/4 ply



Questions 23 to 25 refer to the drawing above.

- 23. What is the dimension of A?
- 24. If the legs for this piece are 2" x 2" x 38 1/2" what is the dimension of B?
- 25. The top of this piece is 1" thick. What are its other dimensions?

- 23: Before removing a tool from the spindle you should:
 - A: Activate tooling lockout
 - B: Feel if it has stopped turning
 - C: Count to ten
 - D: See if it has stopped turning
- 24: If a part starts to move while being cut,
 - A: Hold it down by hand
 - B: Turn feed rate down, activate emergency stop.
 - C: Turn feed rate up, watch closely.
 - D: Call 911
- 25: For a given feed rate, as cutter diameter increases, which action will hold knife cuts per inch constant?
 - A: Increase spindle speed.
 - B: Decrease spindle speed
 - C: No adjustment necessary.
 - D: Increase vacuum pressure
- 26: Immediately after replacing a tool, you should:
 - A: Check wasteboard thickness
 - B: Restart CNC
 - C: Measure tool length
 - D: Reload program

27. Find the differences between these two drawings. Circle any areas of disagreement:

5 x 8 x 1 mdf





4 x 8 x 1 mdf

run 1

28. Match the label with the picture. Write the appropriate letter in the box:

- A: Collet
- B: Upspiral Bit
- C: Downspiral Bit
- D: Compression Bit
- E: Ballnose Bit
- F: Grease Gun













The next questions are about G-code. The code samples contain some lines that are specific to Thermwood machines, and others that are the same on every machine with a Fanuc style controller. The drawing represents the machine bed of our Thermwood CS-45, which is 120" long and 60" wide.



30. Draw the path of the router starting from home (X0 Y0). Circle the last point in the sequence.

M5 S18000 T7 M3 G90 M31 G01 X107. Y48.5 F200. G01 Y27. G01 Y27. G01 X70.5 G01 X34.25 Y55.75 30. Review the code below. Which of the two graphs shows the correct tool path?



You are finished! Check your work carefully, note your start and end times on the front sheet, and turn it in. Thanks!