

2001 State Competition
FFA Agricultural Mechanics Contest
University of Missouri
50 points

Contestant # _____
Contestant Name _____
Chapter _____

ARC WELDING

Problem:

Weld the pipe to the plate provided so that the pipe will be able to hold water

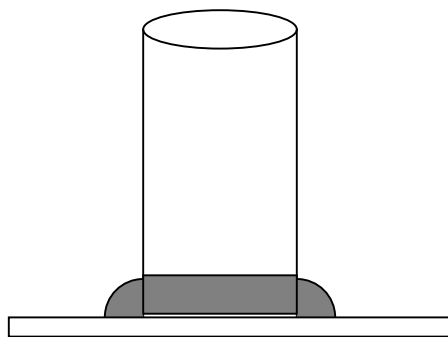
Materials:

1- 1/4" x 4" x 4" metal plate. 1-2" x 3" pipe

Appropriate electrode(s) selected from those in the welding booth. 1 – Firebrick to rest metal against.

Directions:

- Prepare the metal, grinding, cleaning, etc.
- Secure the metal.
- Select electrode from the Contest Official and set welder amperage.
- Have the Contest Official record the type of rod and welder amperage.
- Position metal as shown.
- Tack as needed.
- Perform weld, welding on outside of pipe only.
- Using your pliers, hand your weld to a contest official. They will cool your metal.
- Put contestant number on the backside of the welded plates and on this sheet.
- Turn in work and this sheet.



*Welder Number/Name _____

*Amperage setting _____

*Rod number _____

*Note: A contest official must record this information.

Evaluation Score Sheet

Points		
Evaluation Item	<u>Possible</u>	<u>Earned</u>
Pipe positioned properly, centrally	5	_____
Proper selection of electrode	5	_____
Correct welder amperage (correct arc length)	5	_____
Distortion	5	_____
Weld appearance (temperature, width, and face)	5	_____
Correct Number of Passes	5	_____
Weld passes the 600 psi pressure test	10	_____
Points from identification and problem solving	10	_____
<u>Improper Safety clothing and supplies</u>	-40	_____
Total -----	50	_____

ARC WELDING PROBLEM SOLVING

1. Which of the following electrodes has the highest tensile strength?
 - a. rod 1a
 - b. rod 1b
 - c. rod 1c
 - d. rod 1d

2. Which of the following lenses are appropriate for MIG welding?
 - a. lens 2a
 - b. lens 2b
 - c. lens 2c
 - d. lens 2d

3. While arc welding you are having trouble striking an arc, which of the following controls should you adjust?
 - a. knob/item 3a
 - b. knob/item 3b
 - c. knob/item 3c
 - d. knob/item 3d

4. Which of the following electrodes should be used to weld the piece of metal labeled #4?
 - a. rod 4a
 - b. rod 4b
 - c. rod 4c
 - d. rod 4d

5. What is the rated duty cycle of welder #5?
 - a. 40%
 - b. 25%
 - c. 20%
 - d. 35%

6. Note the MIG welder tagged #6. Identify the knob that adjusts amperage.
 - a. knob/item 6a
 - b. knob/item 6b
 - c. knob/item 6c
 - d. knob/item 6d

