

Iowa State FFA Agricultural Mechanics Career Development Event 2016

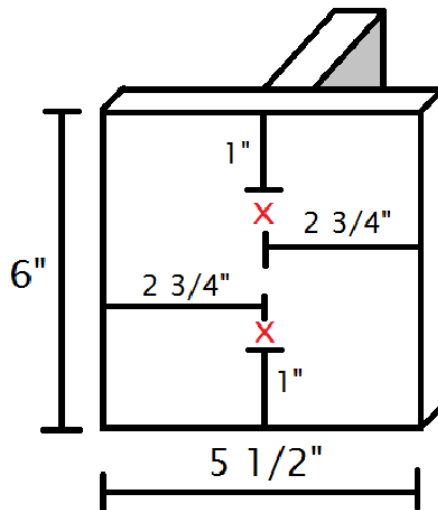
State of Iowa
Department of Education
Iowa State University
Department of Agricultural
Education and Studies

CONTESTANT NAME _____

CONTESTANT SCHOOL _____

Structural Systems Carpentry Skill

Your FFA chapter has been selected to work with Iowa State Fair set up for the hog show. The state fair has decided to construct wood bleachers to add additional seating. Utilizing the diagram below, use the Kreg jig and countersink bit to drill two pocket holes prior to driving two screws into the 1x6 boards provided. X indicates where the screws should be inserted to connect the two boards.



Evaluation Score Card	<u>Points</u>	
	Possible	Earned
Correct configuration	2	_____
Top Screw is flush and placed 1" from the top with no cracks	9	_____
Bottom Screw is flush and placed 1" from the bottom with no cracks	9	_____
Safety	5	_____
Total	25	_____

Cat 246D Skid Loader Activity Resource—Ag Mech CDE 2016

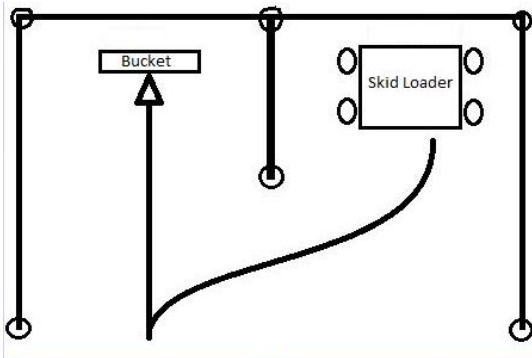
Below is information regarding the Machinery & Equipment Systems skill activity on Thursday. The skid loader used is a Cat 246D. Please note the following:

- The skid loader has double joystick controls. From the driver's perspective, the left joystick controls the motion of the machine and the right joystick controls the boom/bucket.
- Controls are the same for all current Cat skid loaders regardless of model.
- Controls appear to be very similar to current John Deere models.

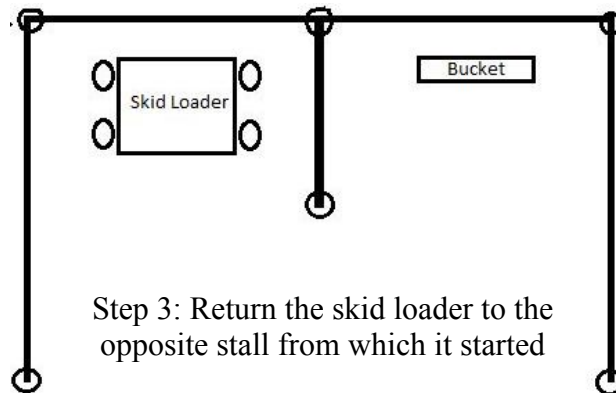
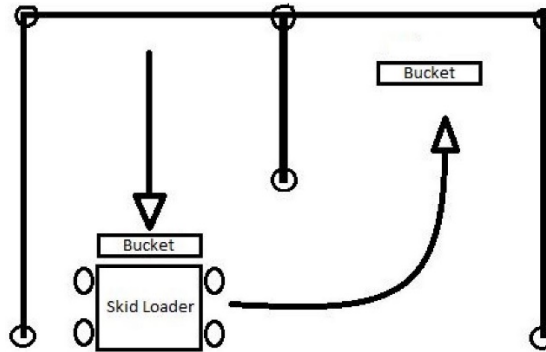
In the interest of safety for all everyone involved in the event:

- Each skid loader will have a supervisor that will have a flag, which will be waved if necessary to indicate that the student should stop all operations.
- Please emphasize to participants that smooth operation, not fast operation, is necessary.
- Participants who have never operated a skid loader, or do not feel comfortable operating a skid loader, should not complete this portion of the event.
- Below is the diagram of operation and the means by which the participants will be evaluated on the event day. Please be familiar with the process.

Step 1: Pick up skid loader bucket on
The opposite side of the stall.



Step 2: Disconnect the bucket at the original
skid loader starting point



Step 3: Return the skid loader to the
opposite stall from which it started

Activity: Properly complete the following tasks.

1. Examine the skid loader for safety and maintenance issues. /2
*-2 for not walking around the skid loader and inspecting.

2. Pull the safety harness on upon entering the cab,
start the skid loader and disengage the parking brake.
*-1 for attempting to start without the harness on.
*-2 for attempting to move with parking break engaged.

3. Operate the skid loader smoothly and safely.
*-1 for excessive idling.
*-1 for bucking the machine.
*-1 for incorrect turns.

3. Remove skid loader from current stall and attach bucket.
*-1 for contact with ropes or cones.
*-2 for each tennis ball knocked off.

4. Move bucket to the other stall and disconnect bucket.
*-2 for not securely latching the bucket.
*-2 for failed attempt to remove bucket.

5. Return, park, and shut off skid loader to the empty stall.
*-1 for contact with ropes or cones.
*-2 for each tennis ball knocked off.
*-1 for not idling down the machine before shutting off.

Iowa State FFA Agricultural Mechanics Career Development Event 2016

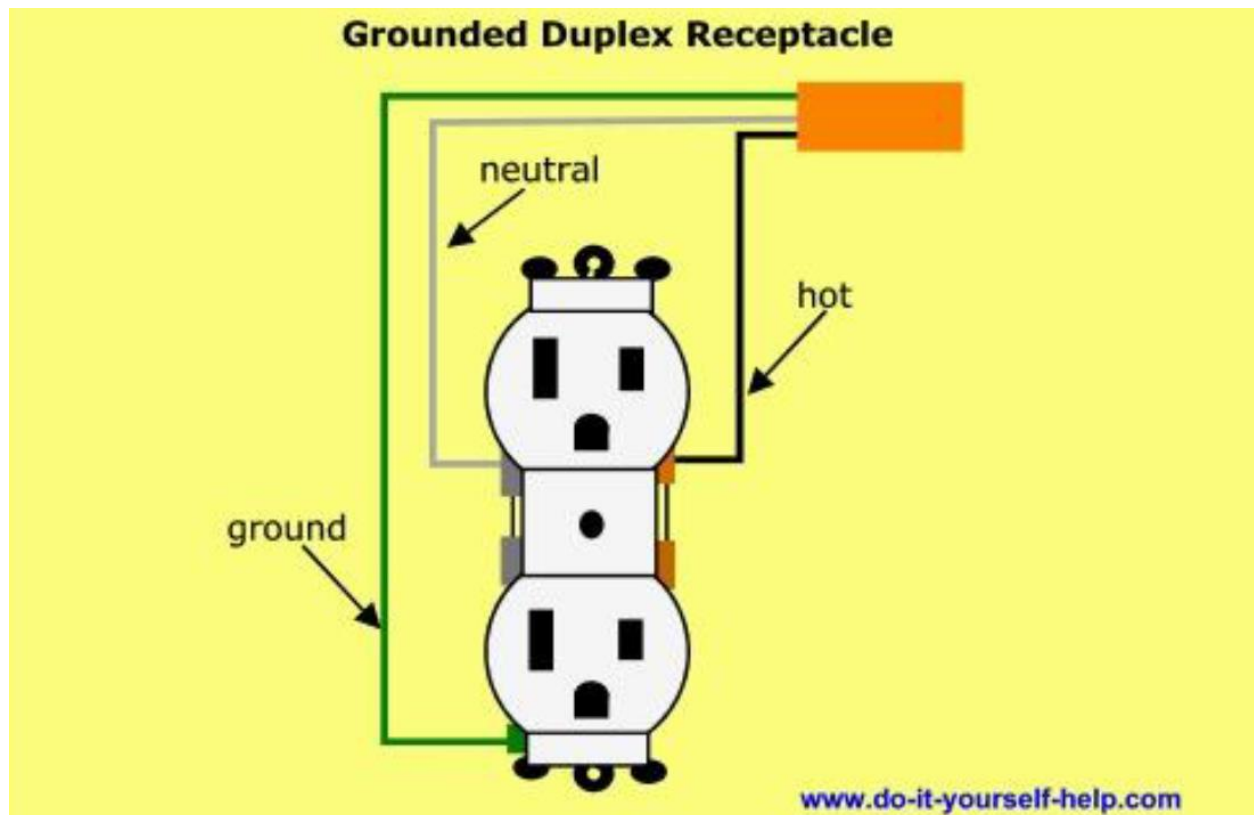
State of Iowa
Department of Education
Iowa State University
Department of Agricultural
Education and Studies

CONTESTANT NAME _____

CONTESTANT SCHOOL _____

Electrical Systems Electrical Wiring

Your FFA chapter has been selected to work with Iowa State Fair in setting up pens for the hog show. Your chapter is also responsible to installing outlets for each pen in order for the participants to run fans during the fair. Using the diagram provided below, wire the outlet so that both terminals are hot.



Evaluation Score Card	<u>Points</u>	
	Possible	Earned
Selected correct outlet	2	_____
Selected the correct wires	2	_____
Ran the neutral wires correctly	2	_____
Ran the hot wires correctly	3	_____
Ran the ground wires correctly	3	_____
Wire stripped at appropriate length	3	_____
Wires were installed in the correct direction	3	_____
Connections are tight	4	_____
Safety	3	_____
Total	25	_____

Iowa State FFA Agricultural Mechanics Career Development Event 2016

State of Iowa
 Department of Education
 Iowa State University
 Department of Agricultural
 Education and Studies

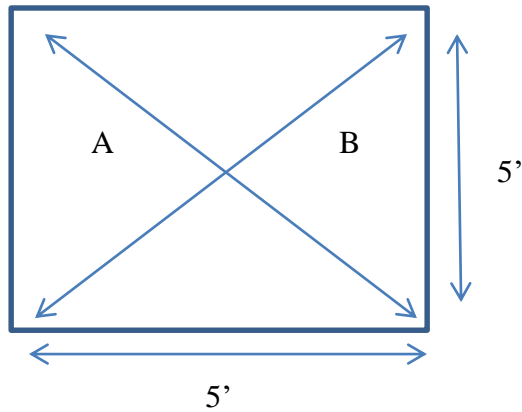
CONTESTANT NAME _____

CONTESTANT SCHOOL _____

Environmental/Natural Resource Systems

Land Measurement

Your FFA chapter has been selected to work with Iowa State Fair in setting up pens for the hog show. Each pen should be 5 foot wide by 5 foot long. You will need to place a flag at each corner of the pen to ensure that the pens are square. Please write your name and school chapter on all four flags.



Evaluation Score Card	<u>Points</u>	
	Possible	Earned
All four sides measure 5' (-1 per inch off)	20	_____
Measurement A = Measurement B	5	_____
Total	20	_____

Iowa State FFA Agricultural Mechanics Career Development Event 2016

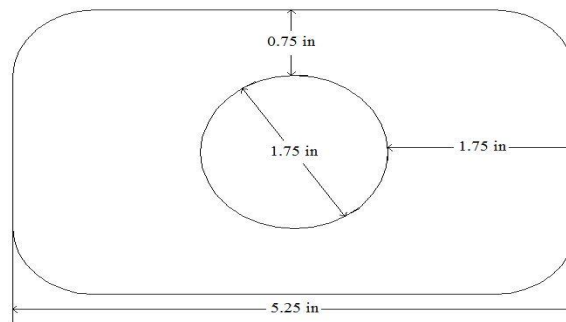
State of Iowa
 Department of Education
 Iowa State University
 Department of Agricultural
 Education and Studies

CONTESTANT NAME _____

CONTESTANT SCHOOL _____

Metals & Welding Systems

Gas Metal Arc Welding Skill



Your FFA chapter has been selected to work with the Iowa State Fair in constructing pens for the hog show. You will be provided with one base plate and one piece of tubing. Using the Mig welder; weld the tubing to the center of the base plate.

DO NOT READJUST THE MACHINE

Evaluation Score Card	<u>Points</u>	
	Possible	Earned
Square tubing placement (-1 per 1/8" off)	4	_____
Weld #1	4	_____
Weld #2	4	_____
Weld #3	4	_____
Weld #4	4	_____
Safety	5	_____
Total	25	_____