

Name _____ School _____ Contestant Number _____

**2014 Cowboy Classic
Agricultural Technology and Mechanical Systems
Structural Systems-Welding Skill**

During the past winter season, your farm experienced a considerable increase in precipitation. With this increased moisture, the traps you have been using to monitor harmful insect/pest populations have rusted. As a result, the braces on many of your traps have failed, requiring maintenance prior to their being used the coming season. In order to repair the traps in the most cost-efficient manner, you decide to add an additional cross brace near the broken braces in your traps. You are given two pieces of metal and you must use a tee weld to fix the cross brace. **You must weld both sides of the tee with the welding rods provided.**

Do not change the polarity settings on the welder.

The welding rod chosen for this application is the Lincoln **E6011 1/8" X 14"** rod. List the ideal amperage range for this rod in each of these applications.

AC _____ Amps DCEN / DCEP _____ Amps

1. _____ A major function of the flux-coating on an arc welding electrode is that it acts as a scavenger, removing oxides and impurities from the weld zone.

True

False

2. _____ _____ is when the weld reduces the cross-sectional thickness of the base metal, which reduces the strength of the weld and work pieces.

a. Cracks

c. Underfill

b. Craters

d. Undercut

3. Using the AWS classification system, **match the definitions with X.**

1. _____ **EXX11** A Type of coating and current

2. _____ **E60X1** B Tensile Strength

3. _____ **E601X** C Welding position

Criterion	Points Possible	Points Earned
Quality of weld 1	6	
Quality of weld 2	6	
Questions	14 (2 points ea.)	
Safety	4	