1. For a cyclically-loaded (in tension) butt joint that features a transition in width or thickness, AWS D1.1:2015 *Structural Welding Code – Steel* requires what transition slope?
   a. 1:1
   b. 2:1
   c. 2.5:1
   d. 3.5:1

2. For which of the following joints would the issue of shear lag be of greatest concern?
   a. A lap joint connected with longitudinal fillet welds of a length less than the width of the connection, and loaded in tension
   b. A lap joint connected with longitudinal fillet welds of a length greater than the width of the connection, and loaded in tension
   c. A lap joint connecting two equal-width plates with two transverse fillet welds along the end of each plate, lap length of five times the thickness of the thinner joint, and loaded in tension
   d. None of the above – shear lag is not a consideration for any of these joints

3. True or False: The throat thickness of a CJP groove weld that connects two plates of different thicknesses is equal to the thickness of the thinner part joined.
   a. True
   b. False

4. Which of the following is a reason that one might select a single U CJP groove weld over a single V CJP groove weld?
   a. A U groove is easier to prepare
   b. A U groove accommodates variety root opening dimensions
   c. A U groove uses less weld metal
   d. A U groove does not require backgouging

5. Which of the following backing materials is considered fusible?
   a. Steel
   b. Copper
   c. Ceramic
   d. All of the above
   e. Both (a) and (b)
6. True or False: It is permissible make CJP groove welds without the use of backing, but such welds must undergo qualification testing.
   a. True
   b. False

7. Which of the following is NOT a factor when determining the effective throat of a PJP groove weld?
   a. Groove type
   b. Load type and direction relative to the weld axis
   c. Welding position
   d. Welding process

8. Maximum and minimum fillet weld sizes are prescribed to ensure which of the following?
   a. Design requirements are met
   b. Economy is achieved
   c. Good fabrication practice is followed
   d. All of the above

9. Which of the following sets the maximum size limit of a fillet weld in a tee joint?
   a. Thickness of the thinner part joined
   b. Thickness of the thicker part joined
   c. Welding process
   d. None of the above

10. True or False: The effective length of a fillet weld is always taken as its actual length.
    a. True
    b. False