Connection Design: Tips, Tricks & Lessons Learned
Quiz for Session 6: The Chevron Effect – March 18, 2019
Due: April 8, 8:00 a.m. EDT – Submit through the online form

1. True or False: The differential equations for *w, V, M*, and *q*, are equilibrium equations.

    a. True
    b. False

2. True or False: The chevron effect is important because it can cause beams to be over-stressed.

    a. True
    b. False

3. True or False: The free body diagrams discussed in the Night School give approximations to the true resultant force distributions in a chevron connection.

    a. True
    b. False

4. True or False: The distribution of forces in a chevron connection is statically indeterminate.

    a. True
    b. False

5. Which of the following statements are true?

    a. The NVF overestimates beam shear.
    b. The NVF underestimates beam shear.
    c. The NVF reasonably estimates beam shear.
    d. The IM underestimates beam shear.
    e. The IM overestimates beam shear.
    f. The IM reasonably estimates beam shear.
    g. A and D are correct
    h. B and F are correct
    i. B and E are correct

6. True or False: The SM method is not a new development in terms of statics.

    a. True
    b. False

7. Which of the following statements are true regarding q, the distributed moment at the beam due to shear forces at the beam flanges?

    a. q has an effect on shear
    b. Because of q, the slope of the moment does not equate to the magnitude of the shear.
    c. q is not considered in the NVF and IM methods
    d. All of the above
    e. B and C only

8. What rules of thumb does the speaker, Dr. Thornton, suggest for approximating the gusset length, L_g, and half beam depth, e_b?

    Notes:
    L = beam span
    When approximating L_g, L_g and L are in same units.
    When approximating e_b, e_b is in inches, span of beam is in feet.

    a. L/4, 0.5L
    b. L/6, 0.5L
    c. L/5, 0.75L
    d. L/6, 0.75L

9. True or False: The eccentricity, Δ, can in most cases be taken as zero.

    a. True
    b. False

10. True or False: The distributed moment, q, in the chevron region, greatly effects shear diagram in this region.

    a. True
    b. False