**Fret Spacing PRE-ASSESSMENT**

This assessment is to be taken before completing the Fret Spacing activity.

Student Institute ID\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Faculty Institute ID\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Who is the first known person to experiment with determining scalar intervals (Scale Lengths)?

 Pythagoras

 Galileo

 Les Paul

 Eddie Van Halen

 None of these

2. Vincenzo Galilei was credited with developing the “rule of 18” in the 16th century.

 True

 False

3. The formula for calculating fret spacing is derived from the “rule of 18” and which of the following?

 The quadratic formula

 The twelfth root of 2

 The Pythagorean theorem

 Pi

 All of these

4. A guitar’s scale length can be calculated by measuring the distance from the front edge of the nut to the center of the 12th fret, then doubling that measurement.

 True

 False

5. One of the most common scale lengths is the Fender 25-1/2” guitar scale.

 True

 False

6. Match each symbol in the fret calculation formula Dn = [(L – Dn-1) ÷ 17.817] + Dn-1 with what it represents from the options below labeled a trough e.

\_\_\_\_\_ L

\_\_\_\_\_ n

\_\_\_\_\_ Dn

\_\_\_\_\_ Dn-1

\_\_\_\_\_ 17.817

a. Constant for calculating fret position

b. Distance from nut to previous fret position

c. Distance from nut to current fret position

d. Scale length

e. Fret position

7. A guitar with a shorter scale length has a lower tension than a guitar with a longer scale length.

 True

 False

8. To implement the “rule of 18,” 16th century instrument makers would begin with which procedure?

 Divide the string length by 2 (18 times)

 Subtract 18 from the string length

 Divide the string length by 2 to the 18th power

 Divide the string length by 18

 The "rule of 18" is just an expression and was never actually used to calculate fret spacing.

9. Select the correct equation to locate the 2nd fret on the neck of a 13.5" scale length mandolin neck?

Formula: Formula: Dn = [(L – Dn-1) ÷ 17.817] + Dn-1

 D2 = [(25.5 - 0) ÷ 17.817] + 0

 D2 = [(13.5 - .76) ÷ 18] + 25.5

 D2 = [(13.5 - .76) ÷ 17.817] + 13.5

 D2 = [(13.5 -.76) ÷ 17.817] + .76

 D2 = [(13 - .76) ÷ 18 + 0

10. The Gibson 24-3/4" scale length rarely measures out to be 24-3/4" because the scale length has gradually changed over the past 50+ years due to changes in production equipment.

 True

 False