Sounds of Music

Every multiple choice is 2 points
Every matching/fill in the blank is 1 point for each term
Every short answer is 3 points
Every calculation is 5 points
The work is on the last page
Points will be deducted for improper sig figs

__/64

Name: _____
School: _____
Team #:_____

1. What is the most common scale used in western music?
   a. Chromatic scale
   b. Augmented scale
   c. Heptatonic scale
   d. Octatonic scale

2. How long can your ears tolerate a sound that is 94 decibels?
   a. 30 minutes
   b. 1 hour
   c. 2 hours
   d. Forever

3. What is a mode in physics?
   a. A pattern of vibration in oscillating systems
   b. The most frequent value in a set of data
   c. A pattern of frequencies in a wave
   d. A frequency lower than 60 Hz

4. Which of these is the major c scale?
   a. C, D, E, F, G, A, B
   b. C, C#, D, D#, E, F, F#, G, G#, A, A#, B, C
   c. E, F#, G#, A, B, C#, D#, E
   d. D, D#, E, F, F#, G, G#, A, A#, B, C, C#, D

5. Which chord consists of the notes Db, F, Ab, Bb?
   a. C#9
   b. Db7
   c. Db6
   d. Fmin9

6. What is the tuning standard for most instruments?
   a. Middle C = 261.63 Hz
   b. A = 440 Hz
   c. G = 49 Hz
   d. A = 110 Hz

7. Which variable does not affect the frequency of a vibrating string?
   a. Friction coefficient of the string
   b. Length of the string
   c. Mass of the string
   d. Tension of the string

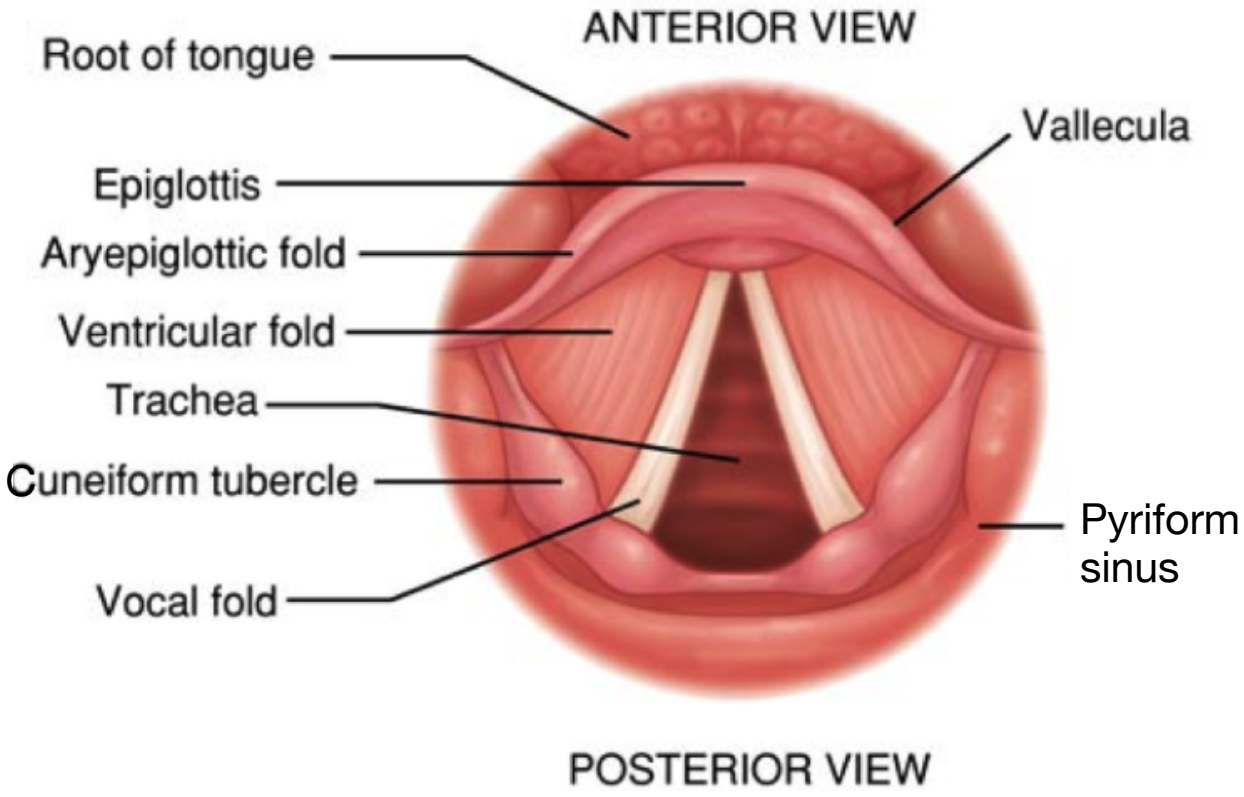
8. What is the circle of fifths?
   a. A representation of the relationship between the notes in the pentatonic scale.
   b. A representation of the relationship between the strings of a guitar.
   c. A representation of the relationship between the tuning of a guitar.
   d. A representation of the relationship between the notes in the chromatic scale

9. Which part of the ear contains the auricle?
   a. Outer ear
   b. Middle ear
   c. Core ear
   d. Inner ear

10. Which of the following is false about Pythagorean tuning?
   a. It is the oldest tuning systems to be theoretically discussed.
   b. The tuning system would produce wolf intervals.
   c. It is based on perfect fourths.
   d.It is very easy to tune by ear with this tunic system.

11. Determine which group the following instruments belong to
   1 = Idiophone, 2 = Aerophone, 3 = chordophone.
   a. Flute 2
   b. Trumpet 2
   c. Saxophone 2
   d. Clarinet 2
   e. Triangle 1
   f. hurdy-gurdy 3
   g. Tuba 2
   h. Harp 3
   i. Cymbal 1
   j. Xylophone 1
   k. Cello 3

12. Label each of part of the vocal cords.



For the following section, fill in the blank.

13. The human body and the mic both have a diaphragm that moves back and forth.
14. Pianos are tuned with the equal temperament tuning system.
15. The black keys on a piano are called accidentals.
16. The cymbals are part of the percussion section of the orchestra.
17. membranophone are a type of instrument where the sound is produced by vibrating a stretched membrane.

18. How does a reed instrument create sound?

3 points for saying that there is high pressure air passing through the reed, causing it to vibrate. This vibration causes the air in the column to vibrate.

19. What is the lowest frequency that a 50.cm flute can achieve, assuming speed of sound is 343m/s. Write the equation and show work.

2 points for using the equation F = v/(2L). 1 point for showing decent work. 2 points for getting 340Hz. Dock off one point if proper sig figs weren't used.

20. How many major seconds is the G note away from the B note? How many semitones? How many minor seconds?

1 points for each part correct. a) 2 major seconds b) 4 semitones c)4 minor seconds.

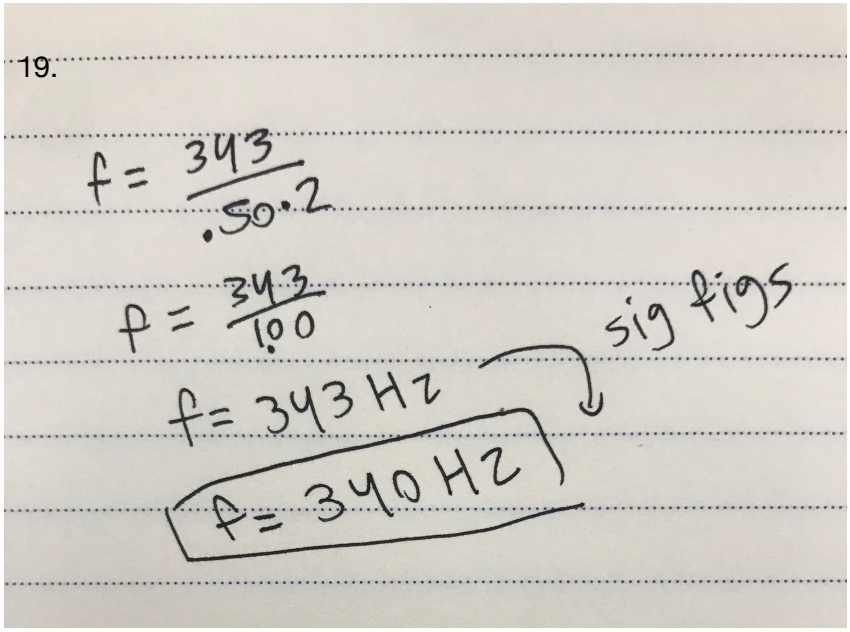
21. I have a cello with a A string that is 70.5 cm. This A string is at Stuttgart pitch. If I use the Pythagorean tuning system, how far away should I place my finger from nut to achieve a E? Write the equation and show work.

2 points for using the equation F = v/(2L). 1 point for showing decent work. 2 points for getting 47.0 cm. Dock off 1 point if proper sig figs weren't used.

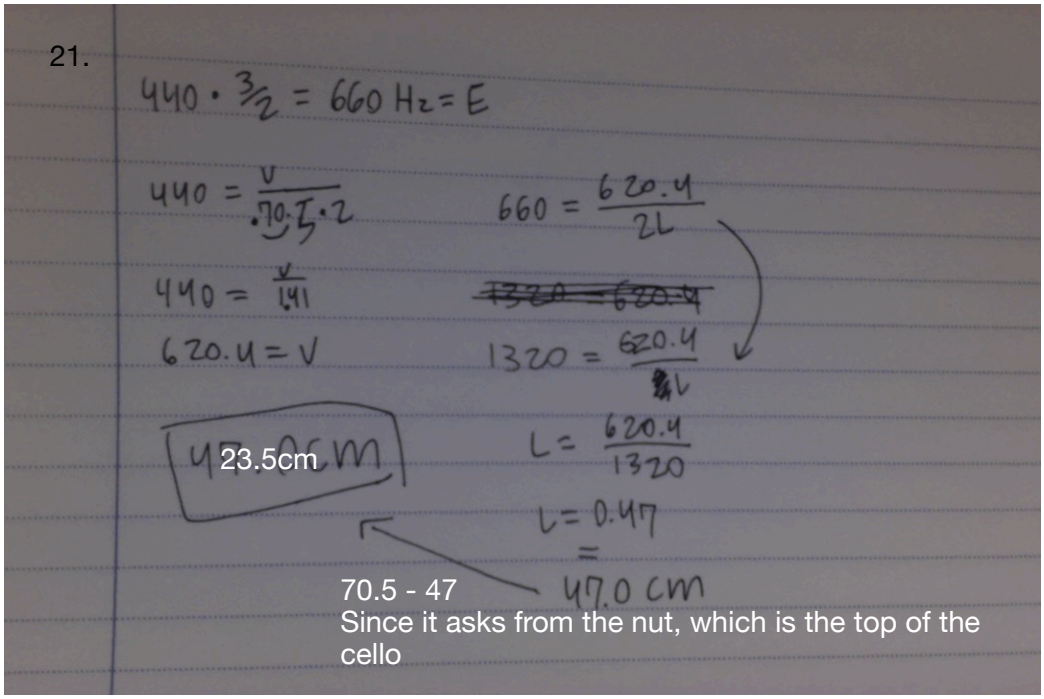
22. Why is a clarinet considered a cylindrical air column instead of a conical air column?

3 points for saying that it has the same width throughout the air column until the end.

19.



21.



70.5 - 47

Since it asks from the nut, which is the top of the cello