

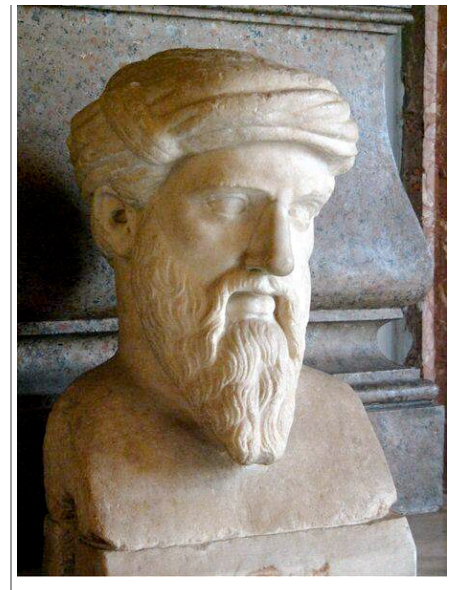
Pythagorean Harmony 2

Monday 12/15/08

Do-now: Review from last week

1. Retell for me one interesting story that you remember about Pythagoras.

2. What did Pythagoras think was the secret to good sounds in music?



Creating related notes

We are going to start with a full straw as the basis of our musical scale, and cut other straws to be simple fractions of it. Then we will play these shorter straws together with the full straw to see how they sound.

3. Cut one straw to be $\frac{1}{2}$ of a full straw.

a) The musical interval between the full straw and this is called an _____.

b) When played together, these two notes sound _____.

4. Cut one straw to be $\frac{2}{3}$ of a full straw.

a) The musical interval between the full straw and this is called a _____.

b) When played together, these two notes sound _____.

5. Cut one straw to be $\frac{3}{4}$ of a full straw.

a) The musical interval between the full straw and this is called a _____.

b) When played together, these two notes sound _____.

6. Cut one straw to be the diagonal of a square whose sides are your two half-straws.

(It may be easier to mark the length of a half-straw on the sides of your paper)

a) The musical interval between the full straw and this is called a _____.

b) When played together, these two notes sound _____.

Creating a musical scale

The full musical scale is made by adding in other notes that relate to each other by simple fractions. Many simple songs can be played using just the first five notes in a musical scale:

C:

D:

E:

F:

G:

A famous example of a song whose tune uses only these five notes is "Ode to Joy" from Beethoven's Ninth Symphony, one of the most famous pieces of choral music of all time:

*Freude, Schöner Götterfunken,
Tochter aus Elysium,
Wir betreten feuer-trunken,
Himmlische, dein Heiligtum!*

Joy, beautiful spark of God,
daughter of heaven,
with hearts aflame we approach,
heavenly one, your shrine.

E E F G G F E D
C C D E E D D
E E F G G F E D
C C D E D C C

*Deine Zauber binden wieder,
Was die Mode streng geteilt;
Alle Menschen werden Brüder,
Wo dein sanfter Flügel weilt.*

Your magic power binds again
what strong custom had divided.
All people become brothers
where your soft wings fly.

D D E C D E F E C
D E F E D C D (G)
E E F G G F E D
C C D E D C C