

MAT 120

Quiz 2

Fall 2024

1. Which frequency ratio is approximately five Equal Tempered semitones?

- a) $4/3$ b) $5/3$ c) $5/4$ d) $3/2$ e) $6/5$

Correct Answer: $4/3$

2. A frequency ratio of 12 corresponds to a just interval of two octaves and two perfect fifths plus which interval?

- a) minor whole tone b) minor third c) major third d) major whole tone e) perfect fourth

Correct Answer: perfect fourth

3. The number $2\sqrt{2}$ represents a frequency ratio for an interval. How many *whole* tones is this interval?

- a) 5 b) 9 c) 7 d) 14 e) 36

Correct Answer: 9

4. If F_1 and F_2 are frequencies, with $F_1 < F_2$, and the frequency ratio F_2/F_1 is measured as x cents, then these numbers can be related in which of the following formulas:

- a) $x^{\frac{2}{1200}} = \frac{F_2}{F_1}$ b) $1200 \cdot 2^x = \frac{F_2}{F_1}$ c) $x = 1200 \cdot \ln\left(\frac{F_2}{F_1}\right)$ d) $1200 \cdot \ln 2 = \frac{F_2}{F_1}$ e) $2^{\frac{x}{1200}} = \frac{F_2}{F_1}$

Correct Answer: $2^{\frac{x}{1200}} = \frac{F_2}{F_1}$

5. What is the cent value of a perfect fifth which is one Syntonic comma (about 21.5 cents) flat to a Just perfect fifth?

- a) 682 b) 692.5 c) 702 d) 680.5 e) 721.5

Correct Answer: 680.5

6. The number $2\sqrt{2}$ represents a frequency ratio for an interval. How many *whole* tones is this interval?

- a) 5 b) 9 c) 7 d) 14 e) 36

Correct Answer: 9

7. Which properties are NOT achieved by the Pythagorean major scale?

- i) $5/4$ Just Major Third ii) semitone is half of cent value of whole tone iii) only one type of whole tone
a) i) only b) ii) only c) iii) only d) i) and ii) only e) ii) and iii) only

Correct Answer: i) and ii) only

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a) i) only b) ii) only c) iii) only d) i) and ii) only e) ii) and iii) only

Correct Answer: ii) only