

MAT 120 Quiz 3 Answer Sheet

Fall 2022

Quiz ID: JST

Name: \_\_\_\_\_

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Submit electronic answers at

<http://azrael.digipen.edu/cgi-bin/MAT120quiz.pl>

## MAT 120

## Quiz 3

Fall 2022

1. Which frequency ratio is approximately five Equal Tempered semitones?  
 a)  $6/5$                       b)  $3/2$                       c)  $5/4$                       d)  $5/3$                       e)  $4/3$
  
2. A frequency ratio of 12 corresponds to a just interval of two octaves and two perfect fifths plus which interval?  
 a) perfect fourth      b) major whole tone      c) major third      d) minor third      e) minor whole tone
  
3. The number  $2\sqrt{2}$  represents a frequency ratio for an interval. How many *whole* tones is this interval?  
 a) 36                      b) 14                      c) 7                      d) 9                      e) 5
  
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)  $2^{\frac{x}{1200}} = \frac{F_2}{F_1}$       b)  $1200 \cdot \ln 2 = \frac{F_2}{F_1}$       c)  $x = 1200 \cdot \ln\left(\frac{F_2}{F_1}\right)$       d)  $1200 \cdot 2^x = \frac{F_2}{F_1}$       e)  $x^{\frac{2}{1200}} = \frac{F_2}{F_1}$
  
5. What is the cent value of a perfect fifth which is one Syntonic comma flat to a Just perfect fifth?  
 a) 695                      b) 680.5                      c) 702                      d) 692.5                      e) 682
  
6. The number  $2\sqrt{2}$  represents a frequency ratio for an interval. How many *whole* tones is this interval?  
 a) 36                      b) 14                      c) 7                      d) 9                      e) 5
  
7. Which properties are NOT maintained 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) ii) and iii) only      b) i) and ii) only      c) iii) only      d) ii) only      e) i) only
  
8. Which properties are NOT maintained by the meantone 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) ii) and iii) only      b) i) and ii) only      c) iii) only      d) ii) only      e) i) only