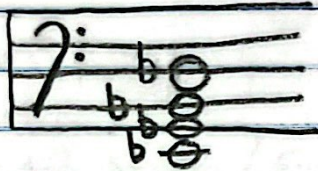


Math and Music Hw 3 Answer Key

- 1) a) GM
 b) D⁷
 c) A aug
 d) Gm⁷

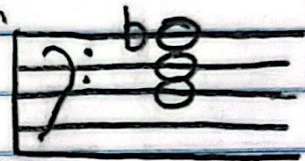
- 2) a) D, II^{m7}
 b) A, V⁷
 c) G, VII^{o7}
 d) G^b, IM

3) a) E^b m⁷



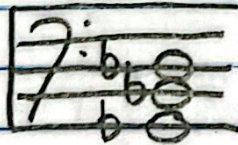
E^b - G^b - B^b - D^b
 3 4 3

b) D dim



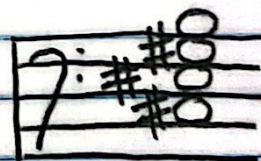
D - F - A^b
 3 3

c) G^b



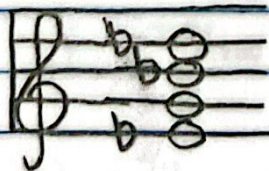
G^b - B^b - D^b
 4 3

d) C^{#7}



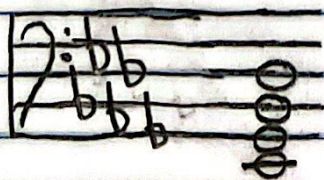
C[#] - E[#] - G[#] - B
 4 3 3

4) a) bIII⁷ in C Major



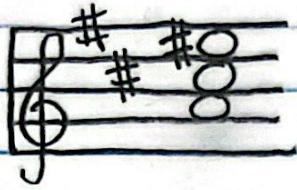
E^b - G - B^b - D^b

b) IV^{m7} in B^b minor (Relative Major: D^b)



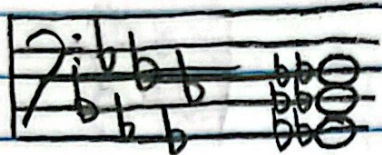
E^b - G^b - B^b - D^b

c) I aug in A Mixolydian (Relative Major: D)



A - C[#] - E[#]

d) b VII in A^b Dorian (Relative Major: G^b)



G^{bb} - B^{bb} - D^{bb}

5) a) Minor; m

b) Seventh; ⁷

c) Diminished Seventh / Full Diminished; ⁰⁷

d) Minor Seventh; m⁷

e) Major

6) a) Seventh; ⁷

b) Minor; m

c) Seventh; ⁷

d) Seventh; ⁷

e) Seventh; ⁷

7) a) 1) $2^{47/1200}$ 2) $\sqrt[1200]{2^{47}}$ 3) 1.028

b) 1) $2^{-325/1200} = 2^{-13/48}$ 2) $\frac{1}{\sqrt[48]{2^{13}}}$ 3) 0.829

c) 1) $2^{8/12} = 2^{2/3}$ 2) $\sqrt[3]{2^2}$ 3) 1.587

d) 1) $2^{-21/12} = 2^{-7/4}$ 2) $\frac{1}{\sqrt[4]{2^7}}$ 3) 0.297

- 8) a) 261.626 Hz
b) 77.782 Hz
c) 987.767 Hz
d) 207.652 Hz

- 9) a) 430.539 Hz
b) 645.080 Hz
c) 32.000 Hz
d) 101.594 Hz

- 10) a) G_3 : 195.998 Hz
 B_3 : 246.942 Hz
 D_4 : 293.665 Hz

- b) A_4^b : 415.305 Hz
 C_5^b : 493.883 Hz
 E_5^b : 622.254 Hz

- c) D_3 : 146.832 Hz
 F_3 : 174.614 Hz
 A_3 : 220.000 Hz
 C_4 : 261.626 Hz

- d) B_5^b : 932.328 Hz
 D_6^b : 1108.731 Hz
 F_6^b : 1318.510 Hz
 A_6^{bb} : 1567.982 Hz

Diminished Seventh
Chords are sometimes
misspelled.