

# Complete-Harmony Canons

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Melodies in which every possible harmony (using  $N$  available pitches) is represented once by a group of  $M$  adjacent notes (ignoring pitch doublings) for various values of  $N$  and  $M$ .

I'll keep adding more as I find them.

(Melodies with an odd number of possible notes in groups of 2 are easy to find, so I'll only be adding those gradually as I explore larger note-groups.)

2 possible pitches; 3 unique harmonies in groups of 2 adjacent notes



A single staff of music in treble clef with a common time signature. It contains four quarter notes: C, G, F#, and G. The notes are spaced out across the staff.

3 possible pitches; 6 unique harmonies in groups of 2 adjacent notes



A single staff of music in treble clef with a common time signature. It contains seven quarter notes: C, G, F#, G, A, G, and C. The notes are spaced out across the staff.

5 possible pitches; 15 unique harmonies in groups of 2 adjacent notes



A single staff of music in treble clef with a common time signature. It contains ten quarter notes: C, G, F#, G, A, G, F#, G, A, and C. The notes are spaced out across the staff.

5 possible pitches; 25 unique harmonies in groups of 3 adjacent notes



A single staff of music in treble clef with a common time signature. It contains sixteen quarter notes: C, G, A, F#, G, A, G, F#, G, A, G, F#, G, A, G, and C. The notes are spaced out across the staff.

5 possible pitches; 30 unique harmonies in groups of 4 adjacent notes



A single staff of music in treble clef with a common time signature. It contains twenty quarter notes: C, G, A, F#, G, A, G, F#, G, A, G, F#, G, A, G, F#, G, A, G, and C. The notes are spaced out across the staff.

6 possible pitches; 41 unique harmonies in groups of 3 adjacent notes



A single staff of music in treble clef with a common time signature. It contains twenty-four quarter notes: C, G, A, F#, G, A, G, F#, G, A, G, F#, G, A, G, F#, G, A, G, F#, G, A, G, and C. The notes are spaced out across the staff.

6 possible pitches; 56 unique harmonies in groups of 4 adjacent notes



A single staff of music in treble clef with a common time signature. It contains twenty-eight quarter notes: C, G, A, F#, G, A, G, F#, G, A, G, F#, G, A, G, F#, G, A, G, F#, G, A, G, F#, G, A, G, and C. The notes are spaced out across the staff.

7 possible pitches; 28 unique harmonies in groups of 2 adjacent notes



A single staff of music in treble clef with a common time signature. It contains fourteen quarter notes: C, G, A, F#, G, A, G, F#, G, A, G, F#, G, and C. The notes are spaced out across the staff.

7 possible pitches; 98 unique harmonies in groups of 4 adjacent notes



A single staff of music in treble clef with a common time signature. It contains twenty-eight quarter notes: C, G, A, F#, G, A, G, F#, G, A, G, F#, G, A, G, F#, G, A, G, F#, G, A, G, F#, G, A, G, and C. The notes are spaced out across the staff.

7 possible pitches; 98 unique harmonies in groups of 4 adjacent notes



A single staff of music in treble clef with a common time signature. It contains twenty-eight quarter notes: C, G, A, F#, G, A, G, F#, G, A, G, F#, G, A, G, F#, G, A, G, F#, G, A, G, F#, G, A, G, and C. The notes are spaced out across the staff.