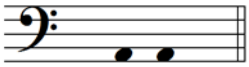
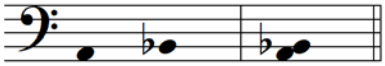
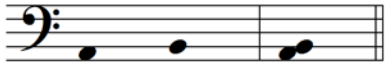
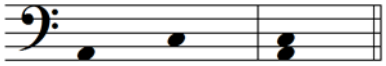
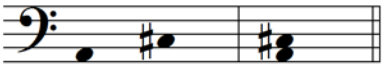
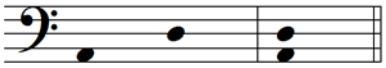
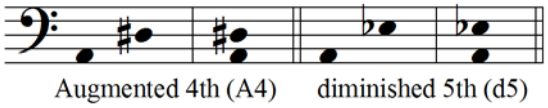
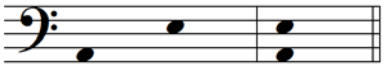
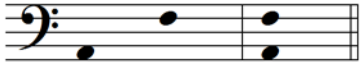
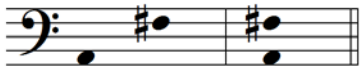
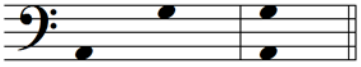
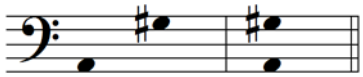
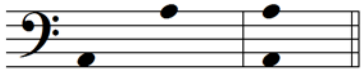
Interval Class and Quality

- Interval **class** comes from the number of lines and spaces the interval covers on the staff (visual size). Count all lines and spaces, including the starting line or space (start with 1).
- Interval **quality** comes from the number of half-steps between the two notes (auditory size). Count the number of half steps travelled, not the number of piano keys used (start with 0).

Number of Half Steps:	Interval Name:	Abbreviation:	Example:
0	Perfect Unison	P1	
1	Minor Second	m2	
2	Major Second	M2	
3	Minor Third	m3	
4	Major Third	M3	
5	Perfect Fourth	P4	
6 ("Tritone")	Augmented Fourth -or- Diminished Fifth	A4 d5	
7	Perfect Fifth	P5	
8	Minor Sixth	m6	
9	Major Sixth	M6	
10	Minor Seventh	m7	
11	Major Seventh	M7	
12	Perfect Octave	P8	

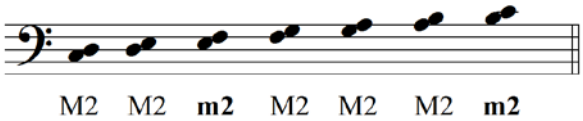
Identifying and Understanding Intervals

- **MEMORIZE:** Know which interval classes can have which possible qualities, and what the size relationship is between different interval qualities.
    - Unisons, 4ths, 5ths and Octaves can be Augmented (A), Perfect (P), or diminished (d).
        - Perfect intervals are one half-step smaller than Augmented intervals;
        - diminished intervals are one half-step smaller than Perfect intervals.

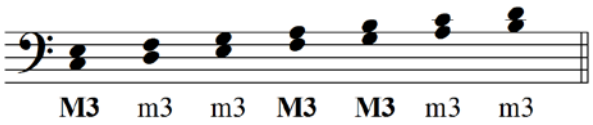
    - 2nds, 3rds, 6ths and 7ths can be Augmented (A), Major (M), minor (m), or diminished (d).
        - Major intervals are one half-step smaller than Augmented intervals;
        - minor intervals are one half-step smaller than Major intervals;
        - diminished intervals are one half-step smaller than minor intervals.

- **MEMORIZE:** you should instantly know the quality of 2nds, 3rds, and 4ths in the natural musical alphabet (the basic "white key" notes on the piano). Knowing the quality of natural intervals lets you figure out intervals that have accidentals: if E-F is a m2, then Eb-F is a M2 (one half-step larger).

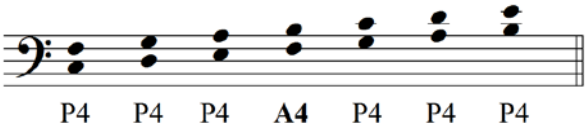
    - Seconds: all natural seconds are Major (two half-steps), except for E-F and B-C, which are minor (one half-step):



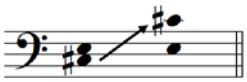
    - Thirds: all natural thirds are minor (three half-steps), except for C-E, F-A and G-B, which are Major (four half-steps):



    - Fourths: all natural fourths are Perfect (five half-steps), except for F-B, which is Augmented (six half-steps):



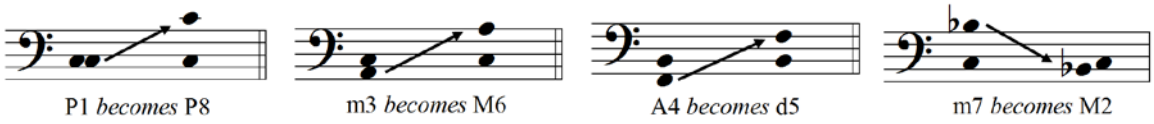
- **MEMORIZE:** you should also understand the concept of **inversion**, as it applies to intervals.
    - Inversion means to take one note of the interval (either one is fine, but I usually use the lowest note), and move it by one octave until it is on the opposite side of the other note. In this way, the interval from C#-E becomes E-C#.



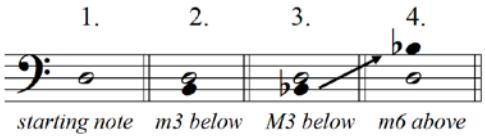
        - Move the note exactly – if it has an accidental, the accidental moves with the note (B-flat stays B-flat after inversion, for example).

    - When an interval is inverted, both its class and quality are changed:
        - Class:
            - **unisons** (1) become **octaves** (8), and octaves become unisons
            - **seconds** (2) become **sevenths** (7), and sevenths become seconds
            - **thirds** (3) become **sixths** (6), and sixths become thirds
            - **fourths** (4) become **fifths** (5), and fifths become fourths.
        - Quality:
            - **Perfect** intervals stay **Perfect** after inversion.
            - **Major** intervals become **minor** after inversion (and vice-versa)
            - **Augmented** intervals become **diminished** after inversion (and vice-versa)

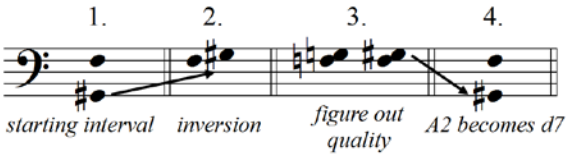
- Below are several examples of how inversion works. Notice that the process works the same whether you invert upwards or downwards:



- **DO:** Knowing the above information, you can create or analyze any interval, no matter how large.
  - If you need to build a large interval (5th, 6th or 7th), you can start with its inversion to see what changes you need to make to the notes.
    - Example: You are given the note D, and are asked to draw another note that is a minor 6th (m6) above it.
      1. 6ths invert to 3rds, so instead of doing a 6th above, write a 3rd below instead.
      2. Minor intervals invert to major, and major intervals invert to minor. So, if we want to end up with a minor 6th, we need to start with a Major 3rd.
      3. You know that B-D is a minor 3rd (see things to memorize, on page 2); we need a Major 3rd, so we need to make the interval a half-step larger by lowering the B to Bb.
      4. Bb to D is a Major 3rd. When you invert the interval, it becomes D to Bb – a minor 6th.



    - Example: You are given a large interval, and asked to identify its quality. Rather than memorizing all of the possible intervals, use inversion to find the answer.
      1. You are given the interval G# to F.
      2. When you invert this interval, you get F to G#.
      3. F natural to G natural is a Major 2nd, so if G becomes G#, the interval is a half-step bigger. F to G# is an Augmented 2nd (A2).
      4. 2nds invert to 7ths, and Augmented intervals invert to diminished intervals. So, if F-G# is an Augmented 2nd, then G#-F is a diminished 7th (d7). Now you have the answer for the original question.



You could also memorize the natural 5ths, 6ths and 7ths, if you don't want to use inversion in this way: