In[597]:=

MUSICAL NUMBERS FOR ALL OCTAVES

Out[597]= FOR MUSICAL NUMBERS

Out[598]= ALL OCTAVES

Here is a notebook to calculate the musical Numbers for any octave length and 2 - 44 partitions of that octave.

In[599]:=
```
oct = 13
```
Out[599]= 13

In[600]:=
```
eqtwo = Table[N[oct^(y/2)], {y, 1, 2}]
```
Out[600]= {3.60555, 13.}

In[601]:=
```
eqthree = Table[N[oct^(y/3)], {y, 1, 3}]
```
Out[601]= {2.35133, 5.52877, 13.}

In[602]:=
```
eqfour = Table[N[oct^(y / 4)], {y, 1, 4}]
```
Out[602]= {1.89883, 3.60555, 6.84633, 13.}

In[603]:=
```
eqfive = Table[N[oct^(y / 5)], {y, 1, 5}]
```
Out[603]= {1.67028, 2.78983, 4.65979, 7.78314, 13.}

In[604]:=
```
eqsix = Table[N[oct^(y / 6)], {y, 1, 6}]
```
Out[604]= {1.53341, 2.35133, 3.60555, 5.52877, 8.47786, 13.}

In[605]:=
```
eqseven = Table[N[oct^(y / 7)], {y, 1, 7}]
```
Out[605]= {1.44256, 2.08099, 3.00196, 4.33051, 6.24703, 9.01174, 13.}

In[606]:=
```
eqeight = Table[N[oct^(y/8)], {y, 1, 8}]
```
Out[606]= {1.37798, 1.89883, 2.61655, 3.60555, 4.96838, 6.84633, 9.4341, 13.}

In[607]:=
```
eqnine = Table[N[oct^(y/9)], {y, 1, 9}]
```
Out[607]= {1.32975, 1.76825, 2.35133, 3.1267, 4.15774, 5.52877, 7.35191, 9.77624, 13.}

In[608]:=
```
eqten = Table[N[oct^(y/10)], {y, 1, 10}]
```
Out[608]= {1.29239, 1.67028, 2.15865, 2.78983, 3.60555, 4.65979, 6.02227, 7.78314, 10.0589, 13.}

In[609]:=
```
eqeleven = Table[N[oct^(y/11)], {y, 1, 11}]
```
Out[609]= {1.26261, 1.59417, 2.01281, 2.54138, 3.20876, 4.0514, 5.11532, 6.45863, 8.1547, 10.2962, 13.}

In[610]:=
```
eqtwelve = Table[N[oct^(y/12)], {y, 1, 12}]
```

Out[610]=
```
{1.23831, 1.53341, 1.89883, 2.35133, 2.91168,
 3.60555, 4.46478, 5.52877, 6.84633, 8.47786, 10.4982, 13.}
```

In[611]:=
```
eqthirteen = Table[N[oct^(n/13), 6], {n, 0, 13}]
```

Out[611]=
```
{1.00000, 1.21811, 1.48380, 1.80744, 2.20167, 2.68188,
 3.26684, 3.97938, 4.84734, 5.90461, 7.19249, 8.76128, 10.6722, 13.0000}
```

In[612]:=
```
eqfourteen = Table[N[oct^(n/14), 6], {n, 0, 14}]
```

Out[612]=
```
{1.00000, 1.20107, 1.44256, 1.73262, 2.08099, 2.49941, 3.00196,
 3.60555, 4.33051, 5.20123, 6.24703, 7.50311, 9.01174, 10.8237, 13.0000}
```

In[613]:=
```
eqfifteen = Table[N[oct^(n/15), 6], {n, 0, 15}]
```

Out[613]=
```
{1.00000, 1.18649, 1.40775, 1.67028, 1.98176, 2.35133, 2.78983, 3.31009,
 3.92738, 4.65979, 5.52877, 6.55982, 7.78314, 9.23459, 10.9567, 13.0000}
```

In[614]:=
```
eqsixteen = Table[N[oct^(n/16), 6], {n, 0, 16}]
```

Out[614]=
```
{1.00000, 1.17387, 1.37798, 1.61757, 1.89883, 2.22899, 2.61655, 3.07150,
 3.60555, 4.23246, 4.96838, 5.83225, 6.84633, 8.03672, 9.43410, 11.0744, 13.0000}
```

In[615]:=
```
eq17 = Table[N[oct^(n/17), 6], {n, 0, 17}]
```

Out[615]=
```
{1.00000, 1.16286, 1.35223, 1.57246, 1.82854, 2.12633, 2.47261, 2.87530, 3.34356,
 3.88808, 4.52127, 5.25759, 6.11382, 7.10950, 8.26733, 9.61371, 11.1794, 13.0000}
```

In[616]:=
```
eq18 = Table[N[oct^(n/18), 6], {n, 0, 18}]
```

Out[616]=
```
{1.00000, 1.15315, 1.32975, 1.53341, 1.76825, 2.03905, 2.35133, 2.71144, 3.12670, 3.60555,
 4.15774, 4.79450, 5.52877, 6.37551, 7.35191, 8.47786, 9.77624, 11.2735, 13.0000}
```

In[617]:=
```
eq19 = Table[N[oct^(n/19), 6], {n, 0, 19}]
```

Out[617]=
```
{1.00000, 1.14453, 1.30996, 1.49929, 1.71599, 1.96401, 2.24787, 2.57277, 2.94462, 3.37021,
 3.85732, 4.41484, 5.05293, 5.78325, 6.61912, 7.57581, 8.67077, 9.92399, 11.3583, 13.0000}
```

In[618]:=
```
eq20 = Table[N[oct^(n/20), 6], {n, 0, 20}]
```

Out[618]=
```
{1.00000, 1.13683, 1.29239, 1.46924, 1.67028, 1.89883,
 2.15865, 2.45403, 2.78983, 3.17157, 3.60555, 4.09891, 4.65979,
 5.29741, 6.02227, 6.84633, 7.78314, 8.84814, 10.0589, 11.4353, 13.0000}
```

In[619]:=
```
eq21 = Table[N[oct^(n/21), 6], {n, 0, 21}]
```

Out[619]=
```
{1.00000, 1.12991, 1.27670, 1.44256, 1.62997, 1.84172,
 2.08099, 2.35133, 2.65680, 3.00196, 3.39195, 3.83261, 4.33051, 4.89310,
 5.52877, 6.24703, 7.05860, 7.97561, 9.01174, 10.1825, 11.5053, 13.0000}
```

In[620]:=
```
eq22 = Table[N[oct^(n/22), 6], {n, 0, 22}]
```

Out[620]=
```
{1.00000, 1.12366, 1.26261, 1.41874, 1.59417, 1.79130, 2.01281,
 2.26171, 2.54138, 2.85564, 3.20876, 3.60555, 4.05140, 4.55239, 5.11532,
 5.74787, 6.45863, 7.25729, 8.15470, 9.16309, 10.2962, 11.5694, 13.0000}
```

In[621]:=
```
eq23 = Table[N[oct^(n / 23), 6], {n, 0, 23}]
```

Out[621]=
```
{1.00000, 1.11798, 1.24987, 1.39732, 1.56217, 1.74647, 1.95251, 2.18286,
 2.44039, 2.72829, 3.05016, 3.41001, 3.81231, 4.26207, 4.76489, 5.32703,
 5.95548, 6.65809, 7.44358, 8.32174, 9.30350, 10.4011, 11.6282, 13.0000}
```

In[622]:=
```
eqs24 = Table[N[oct^(n / 24), 6], {n, 0, 24}]
```

Out[622]=
```
{1.00000, 1.11279, 1.23831, 1.37798, 1.53341, 1.70636, 1.89883, 2.11300,
 2.35133, 2.61655, 2.91168, 3.24009, 3.60555, 4.01223, 4.46478, 4.96838, 5.52877,
 6.15238, 6.84633, 7.61854, 8.47786, 9.43410, 10.4982, 11.6823, 13.0000}
```

In[623]:=
```
eqs25 = Table[N[oct^(n / 25), 6], {n, 0, 25}]
```

Out[623]=
```
{1.00000, 1.10805, 1.22777, 1.36042, 1.50741, 1.67028, 1.85074, 2.05071,
 2.27228, 2.51779, 2.78983, 3.09126, 3.42525, 3.79534, 4.20541, 4.65979, 5.16326,
 5.72113, 6.33927, 7.02420, 7.78314, 8.62407, 9.55587, 10.5883, 11.7324, 13.0000}
```

In[624]:=
```
eqs26 = Table[N[oct^(n / 26), 6], {n, 0, 26}]
```

Out[624]=
```
{1.00000, 1.10368, 1.21811, 1.34441, 1.48380, 1.63765, 1.80744, 1.99484, 2.20167,
 2.42994, 2.68188, 2.95995, 3.26684, 3.60555, 3.97938, 4.39197, 4.84734, 5.34992,
 5.90461, 6.51682, 7.19249, 7.93823, 8.76128, 9.66966, 10.6722, 11.7788, 13.0000}
```

In[625]:=
```
eqs26 = Table[N[oct^(n / 26), 6], {n, 0, 26}]
```

Out[625]=
```
{1.00000, 1.10368, 1.21811, 1.34441, 1.48380, 1.63765, 1.80744, 1.99484, 2.20167,
 2.42994, 2.68188, 2.95995, 3.26684, 3.60555, 3.97938, 4.39197, 4.84734, 5.34992,
 5.90461, 6.51682, 7.19249, 7.93823, 8.76128, 9.66966, 10.6722, 11.7788, 13.0000}
```

In[626]:=
```
eqs27 = Table[N[oct^(n / 27), 6], {n, 0, 27}]
```

Out[626]=
```
{1.00000, 1.09966, 1.20925, 1.32975, 1.46227, 1.60800, 1.76825, 1.94446, 2.13824, 2.35133,
 2.58566, 2.84334, 3.12670, 3.43829, 3.78094, 4.15774, 4.57209, 5.02773, 5.52877,
 6.07975, 6.68564, 7.35191, 8.08458, 8.89027, 9.77624, 10.7505, 11.8219, 13.0000}
```

In[627]:=
```
eqs28 = Table[N[oct^(n / 28), 6], {n, 0, 28}]
```

Out[627]=
```
{1.00000, 1.09593, 1.20107, 1.31629, 1.44256, 1.58095, 1.73262, 1.89883, 2.08099, 2.28062,
 2.49941, 2.73918, 3.00196, 3.28994, 3.60555, 3.95144, 4.33051, 4.74595, 5.20123, 5.70020,
 6.24703, 6.84633, 7.50311, 8.22290, 9.01174, 9.87625, 10.8237, 11.8620, 13.0000}
```

In[628]:=
```
eqs29 = Table[N[oct^(n / 29), 6], {n, 0, 29}]
```

Out[628]=
```
{1.00000, 1.09248, 1.19350, 1.30387, 1.42445, 1.55618, 1.70009, 1.85730, 2.02906, 2.21670,
 2.42169, 2.64564, 2.89029, 3.15758, 3.44958, 3.76858, 4.11708, 4.49781, 4.91375, 5.36815,
 5.86458, 6.40691, 6.99939, 7.64667, 8.35380, 9.12633, 9.97029, 10.8923, 11.8996, 13.0000}
```

In[629]:=
```
eqs30 = Table[N[oct^(n / 30), 6], {n, 0, 30}]
```

Out[629]=
```
{1.00000, 1.08926, 1.18649, 1.29239, 1.40775, 1.53341, 1.67028,
 1.81937, 1.98176, 2.15865, 2.35133, 2.56121, 2.78983, 3.03885, 3.31009,
 3.60555, 3.92738, 4.27794, 4.65979, 5.07572, 5.52877, 6.02227, 6.55982,
 7.14535, 7.78314, 8.47786, 9.23459, 10.0589, 10.9567, 11.9347, 13.0000}
```

In[630]:=
```
eqs31 = Table[N[oct^(n / 31), 6], {n, 0, 31}]
```

Out[630]=
```
{1.00000, 1.08626, 1.17996, 1.28174, 1.39231, 1.51241, 1.64287, 1.78458,
 1.93852, 2.10573, 2.28737, 2.48468, 2.69901, 2.93182, 3.18472, 3.45943,
 3.75784, 4.08199, 4.43410, 4.81659, 5.23206, 5.68338, 6.17363, 6.70616,
 7.28463, 7.91300, 8.59558, 9.33703, 10.1424, 11.0173, 11.9677, 13.0000}
```

In[631]:=
```
eqs32 = Table[N[oct^(n / 32), 6], {n, 0, 32}]
```

Out[631]=
```
{1.00000, 1.08345, 1.17387, 1.27184, 1.37798, 1.49298, 1.61757, 1.75257,
 1.89883, 2.05729, 2.22899, 2.41500, 2.61655, 2.83491, 3.07150, 3.32783,
 3.60555, 3.90645, 4.23246, 4.58568, 4.96838, 5.38301, 5.83225, 6.31898, 6.84633,
 7.41768, 8.03672, 8.70742, 9.43410, 10.2214, 11.0744, 11.9987, 13.0000}
```

In[632]:=
```
eqs33 = Table[N[oct^(n / 33), 6], {n, 0, 33}]
```

Out[632]=
```
{1.00000, 1.08083, 1.16819, 1.26261, 1.36466, 1.47496, 1.59417, 1.72302,
 1.86229, 2.01281, 2.17550, 2.35133, 2.54138, 2.74679, 2.96881, 3.20876, 3.46812,
 3.74843, 4.05140, 4.37886, 4.73279, 5.11532, 5.52877, 5.97564, 6.45863, 6.98066,
 7.54488, 8.15470, 8.81382, 9.52620, 10.2962, 11.1284, 12.0278, 13.0000}
```

In[633]:=
```
eqs34 = Table[N[oct^(n / 34), 6], {n, 0, 34}]
```

Out[633]=
```
{1.00000, 1.07836, 1.16286, 1.25398, 1.35223, 1.45819, 1.57246, 1.69567,
 1.82854, 1.97182, 2.12633, 2.29294, 2.47261, 2.66636, 2.87530, 3.10060, 3.34356,
 3.60555, 3.88808, 4.19274, 4.52127, 4.87555, 5.25759, 5.66957, 6.11382, 6.59289,
 7.10950, 7.66659, 8.26733, 8.91514, 9.61371, 10.3670, 11.1794, 12.0554, 13.0000}
```

In[634]:=
```
eqs35 = Table[N[oct^(n / 35), 6], {n, 0, 35}]
```

Out[634]=
```
{1.00000, 1.07604, 1.15785, 1.24589, 1.34063, 1.44256, 1.55225, 1.67028, 1.79728,
 1.93394, 2.08099, 2.23922, 2.40948, 2.59269, 2.78983, 3.00196, 3.23021, 3.47583,
 3.74012, 4.02450, 4.33051, 4.65979, 5.01410, 5.39535, 5.80560, 6.24703, 6.72204,
 7.23315, 7.78314, 8.37494, 9.01174, 9.69696, 10.4343, 11.2277, 12.0814, 13.0000}
```

In[635]:=
```
eqs36 = Table[N[oct^(n / 36), 6], {n, 0, 36}]
```

Out[635]=
```
{1.00000, 1.07385, 1.15315, 1.23831, 1.32975, 1.42795, 1.53341, 1.64665, 1.76825, 1.89883,
 2.03905, 2.18963, 2.35133, 2.52498, 2.71144, 2.91168, 3.12670, 3.35760, 3.60555,
 3.87181, 4.15774, 4.46478, 4.79450, 5.14856, 5.52877, 5.93706, 6.37551, 6.84633,
 7.35191, 7.89484, 8.47786, 9.10393, 9.77624, 10.4982, 11.2735, 12.1060, 13.0000}
```

In[636]:=
```
eqs37 = Table[N[oct^(n/37), 6], {n, 0, 37}]
```

Out[636]=
```
{1.00000, 1.07178, 1.14872, 1.23117, 1.31955, 1.41427, 1.51579, 1.62460, 1.74122, 1.86620,
 2.00016, 2.14374, 2.29762, 2.46255, 2.63932, 2.82878, 3.03183, 3.24946, 3.48272, 3.73272,
 4.00066, 4.28784, 4.59563, 4.92551, 5.27908, 5.65802, 6.06416, 6.49946, 6.96601,
 7.46605, 8.00198, 8.57638, 9.19201, 9.85183, 10.5590, 11.3170, 12.1293, 13.0000}
```

In[637]:=
```
eqs38 = Table[N[oct^(n/38), 6], {n, 0, 38}]
```

Out[637]=
```
{1.00000, 1.06983, 1.14453, 1.22446, 1.30996, 1.40143, 1.49929, 1.60398, 1.71599, 1.83581,
 1.96401, 2.10115, 2.24787, 2.40484, 2.57277, 2.75242, 2.94462, 3.15024, 3.37021, 3.60555,
 3.85732, 4.12668, 4.41484, 4.72312, 5.05293, 5.40577, 5.78325, 6.18708, 6.61912, 7.08133,
 7.57581, 8.10482, 8.67077, 9.27624, 9.92399, 10.6170, 11.3583, 12.1515, 13.0000}
```

In[638]:=
```
eqs39 = Table[N[oct^(n/39), 6], {n, 0, 39}]
```

Out[638]=
```
{1.00000, 1.06798, 1.14058, 1.21811, 1.30092, 1.38936, 1.48380, 1.58467, 1.69239, 1.80744,
 1.93031, 2.06153, 2.20167, 2.35133, 2.51118, 2.68188, 2.86419, 3.05890, 3.26684, 3.48891,
 3.72609, 3.97938, 4.24990, 4.53880, 4.84734, 5.17686, 5.52877, 5.90461, 6.30600, 6.73468,
 7.19249, 7.68143, 8.20361, 8.76128, 9.35686, 9.99293, 10.6722, 11.3977, 12.1725, 13.0000}
```

In[639]:=
```
eqs40 = Table[N[oct^(n/40), 6], {n, 0, 40}]
```

Out[639]=
```
{1.00000, 1.06622, 1.13683, 1.21212, 1.29239, 1.37798, 1.46924, 1.56653,
 1.67028, 1.78089, 1.89883, 2.02458, 2.15865, 2.30161, 2.45403, 2.61655,
 2.78983, 2.97458, 3.17157, 3.38161, 3.60555, 3.84433, 4.09891, 4.37036,
 4.65979, 4.96838, 5.29741, 5.64822, 6.02227, 6.42109, 6.84633, 7.29972, 7.78314,
 8.29857, 8.84814, 9.43410, 10.0589, 10.7250, 11.4353, 12.1926, 13.0000}
```

In[640]:=
```
eqs41 = Table[N[oct^(n/41), 6], {n, 0, 41}]
```

Out[640]=
```
{1.00000, 1.06456, 1.13328, 1.20645, 1.28433, 1.36725, 1.45551, 1.54948,
 1.64951, 1.75600, 1.86936, 1.99004, 2.11852, 2.25529, 2.40088, 2.55588,
 2.72088, 2.89654, 3.08353, 3.28260, 3.49452, 3.72011, 3.96028, 4.21595, 4.48812,
 4.77786, 5.08631, 5.41468, 5.76424, 6.13636, 6.53252, 6.95424, 7.40320, 7.88113,
 8.38992, 8.93156, 9.50816, 10.1220, 10.7754, 11.4711, 12.2116, 13.0000}
```

In[641]:=
```
eqs42 = Table[N[oct^(n/42), 6], {n, 0, 42}]
```

Out[641]=
```
{1.00000, 1.06297, 1.12991, 1.20107, 1.27670, 1.35710, 1.44256, 1.53341,
 1.62997, 1.73262, 1.84172, 1.95770, 2.08099, 2.21203, 2.35133, 2.49941, 2.65680,
 2.82411, 3.00196, 3.19100, 3.39195, 3.60555, 3.83261, 4.07396, 4.33051, 4.60322,
 4.89310, 5.20123, 5.52877, 5.87694, 6.24703, 6.64043, 7.05860, 7.50311, 7.97561,
 8.47786, 9.01174, 9.57924, 10.1825, 10.8237, 11.5053, 12.2298, 13.0000}
```

In[642]:=
```
eqs43 = Table[N[oct^(n/43), 6], {n, 0, 43}]
```

Out[642]=
```
{1.00000, 1.06146, 1.12671, 1.19596, 1.26947, 1.34750, 1.43032, 1.51824,
 1.61156, 1.71061, 1.81575, 1.92736, 2.04582, 2.17157, 2.30504, 2.44672, 2.59711,
 2.75674, 2.92619, 3.10604, 3.29696, 3.49960, 3.71471, 3.94303, 4.18539, 4.44264,
 4.71571, 5.00556, 5.31323, 5.63981, 5.98646, 6.35441, 6.74499, 7.15957, 7.59963,
 8.06674, 8.56256, 9.08886, 9.64751, 10.2405, 10.8699, 11.5380, 12.2472, 13.0000}
```

In[643]:=
```
eqs44 = Table[N[oct^(n / 44), 6], {n, 0, 44}]
```

Out[643]=
```
{1.00000, 1.06003, 1.12366, 1.19111, 1.26261, 1.33840, 1.41874, 1.50390, 1.59417,
 1.68987, 1.79130, 1.89883, 2.01281, 2.13363, 2.26171, 2.39747, 2.54138, 2.69394,
 2.85564, 3.02706, 3.20876, 3.40138, 3.60555, 3.82198, 4.05140, 4.29460, 4.55239,
 4.82565, 5.11532, 5.42238, 5.74787, 6.09290, 6.45863, 6.84633, 7.25729, 7.69292,
 8.15470, 8.64421, 9.16309, 9.71312, 10.2962, 10.9142, 11.5694, 12.2638, 13.0000}
```