HARMONICS TO MERCURY

ALL WITHIN .5 PERCENT UNLESS MARKED BLACK

1. **Self ODR – farthest distance from sun over closest covers more than a perfect 5 th**
   1.5177206304709833261

2. **Solar Day**

Mars PLANET → 1.337, Jupiter PLANET → 1.661,

Venus PLANET → 1.5069

3. **Year Length**

Neptune PLANET → 1.336, PLUTO → 1.0052 ,

Eris 1.129,

4. **Mass**

Jupiter PLANET → 1.4038366734678536888

5. **Angular Momentum**

Venus PLANET → 1.8814122278064101921,

Neptune PLANET → 1.8842495866323257387,

6. **Radius**

Saturn PLANET → 1.4935237939090871225, .65 percent

Solar Day LENGTHS

Mars PLANET → 1.337, Venus PLANET → 1.5069 Jupiter PLANET → 1.661

Ceres 1.817, Eris 1.27

```
In[22]:= 2^FractionalPart[Log[2, Entity["Planet", "Mercury"]["SolarDay"] /
           EntityValue["Planet", "SolarDay", "EntityAssociation"]]]
```

```
Out[]= ⟨| Mercury → 1.00000, Venus → 1.50697, Earth → 1.37452, Mars → 1.33775,
  Jupiter → 1.6617, Saturn → 1.5478, Uranus → 1.9135, Neptune → 1.0238 |⟩
```

```
In[25]:= 2^FractionalPart[Log[2,
           Entity["Planet", "Mercury"]["SolarDay"] / Entity["MinorPlanet", "Ceres"]["SolarDay"]]]
```

```
Out[]= 1.817
```

```
In[]:= 2^FractionalPart[Log[2,
           Entity["Planet", "Mercury"]["SolarDay"] / Entity["MinorPlanet", "Pluto"]["SolarDay"]]]
```

```
Out[]= 1.72147
```

```
In[27]:= 2^FractionalPart[Log[2,
           Entity["Planet", "Mercury"]["SolarDay"] / Entity["MinorPlanet", "Eris"]["SolarDay"]]]
```

```
Out[]= 1.27
```

HARMONICS TO MERCURY

YEAR LENGTHS

PLUTO -- - 1.0052 , CERES 1.19, , Neptune PLANET → 1.336,

Eris 1.129, Venus PLANET → 1.277,

```
In[31]:= 2^FractionalPart[Log[2, EntityValue["Planet", "OrbitPeriod", "EntityAssociation"] /
           Entity["Planet", "Mercury"]["OrbitPeriod"]]]
```

```
Out[]= ⟨| Mercury → 1.000000, Venus → 1.277155, Earth → 1.038023, Mars → 1.952329,
  Jupiter → 1.539181, Saturn → 1.910415, Uranus → 1.362654, Neptune → 1.336361 |⟩
```

```
In[32]:= 2^FractionalPart[Log[2, Entity["MinorPlanet", "Pluto"]["OrbitPeriod"] /
           Entity["Planet", "Mercury"]["OrbitPeriod"]]]
```

```
Out[]= 1.005245
```

```
In[]:= 2^FractionalPart[Log[2, Entity["MinorPlanet", "Ceres"]["OrbitPeriod"] /
           Entity["Planet", "Mercury"]["OrbitPeriod"]]]
```

```
Out[]= 1.193756
```

In[34]:=
```
2^FractionalPart[Log[2, Entity["MinorPlanet", "Eris"]["OrbitPeriod"] /
    Entity["Planet", "Mercury"]["OrbitPeriod"]]]
```

Out[]= 1.1290

In[10]:=
```
2^FractionalPart[Log[2,
   Entity["Planet", "Mercury"]["OrbitPeriod"] / Entity["Moon" PLANETARY MOON]["OrbitPeriod"]]]
```

Out[]= 1.6099

In[]:=
```
my = 2^FractionalPart[Log[2,
    EntityValue["Planet", "OrbitPeriod"] / Entity["Planet", "Mercury"]["OrbitPeriod"]]]
```

Out[]= {1.000000, 1.277155, 1.038023, 1.952329, 1.539181, 1.910415, 1.362654, 1.336361}

In[]:=
```
MatrixForm[%]
```

Out[]//MatrixForm=

$$\begin{pmatrix} 1.000000 \\ 1.277155 \\ 1.038023 \\ 1.952329 \\ 1.539181 \\ 1.910415 \\ 1.362654 \\ 1.336361 \end{pmatrix}$$

In[]:=
```
Export["mercyear.xls", my, "XLS"]
```

Out[]= mercyear.xls

In[]:=
```
SystemOpen["mercyear.xls"]
```

HARMONICS OF FARTHEST PT OVER NEAREST TO SUN FOR EACH PLANET

In[]:=
```
2^FractionalPart[Log[2, EntityValue["Planet", "Aphelion", "EntityAssociation"] /
    EntityValue["Planet", "Perihelion", "EntityAssociation"]]]
```

Out[]= ⟨| Mercury → 1.5177206, Venus → 1.0136388, Earth → 1.03398839, Mars → 1.20607457, Jupiter → 1.10170720, Saturn → 1.114502, Uranus → 1.09900527, Neptune → 1.0173205 |⟩

In[]:=
```
Entity["MinorPlanet", "Ceres"]["Aphelion"] / Entity["MinorPlanet", "Ceres"]["Perihelion"]
```

Out[]= 1.1733465

In[]:=
```
Entity["MinorPlanet", "Pluto"]["Aphelion"] / Entity["MinorPlanet", "Pluto"]["Perihelion"]
```

Out[]= 1.67

In[]:=
```
Entity["MinorPlanet", "Eris"]["Aphelion"] / Entity["MinorPlanet", "Eris"]["Perihelion"]
```

In[]:=
```
2.5847131940170787205`4.087973628208405 / 2
```

Out[]= 1.292

In[ ]:=
```
Moon PLANETARY MOON ["Aphelion"] / Moon PLANETARY MOON ["Perihelion"]
```

Out[ ]=
$$\frac{\text{Missing}[\text{UnknownProperty}, \{\text{PlanetaryMoon}, \text{Aphelion}\}]}{\text{Missing}[\text{UnknownProperty}, \{\text{PlanetaryMoon}, \text{Perihelion}\}]}$$

HARMONICS TO MERCURY

MASS

Jupiter → **1.404,**

In[43]:=
```
2^FractionalPart[Log[2, EntityValue["Planet", "Mass", "EntityAssociation"] /
    Entity["Planet", "Mercury"]["Mass"]]]
```

Out[•]= ⟨| Mercury → 1.000, Venus → 1.843, Earth → 1.131, Mars → 1.944,
Jupiter → 1.404, Saturn → 1.681, Uranus → 1.027, Neptune → 1.212 |⟩

In[20]:=
```
2^FractionalPart[
  Log[2, Entity["Planet", "Mercury"]["Mass"] / Entity["MinorPlanet", "Eris"]["Mass"]]]
```

Out[20]= 1.24

In[21]:=
```
2^FractionalPart[
  Log[2, Entity["Planet", "Mercury"]["Mass"] / Entity["MinorPlanet", "Pluto"]["Mass"]]]
```

Out[21]= 1.576

In[22]:=
```
2^FractionalPart[
  Log[2, Entity["Planet", "Mercury"]["Mass"] / Entity["MinorPlanet", "Ceres"]["Mass"]]]
```

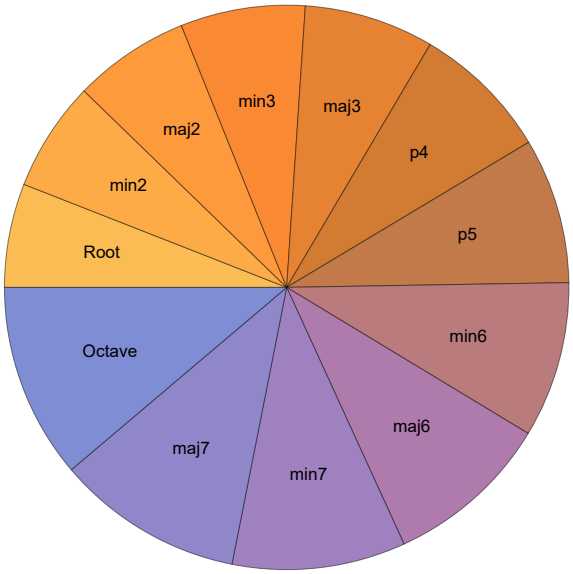
Out[22]= 1.36

In[23]:=
```
2^FractionalPart[
  Log[2, Entity["Planet", "Mercury"]["Mass"] / Moon PLANETARY MOON ["Mass"]]]
```

Out[23]= 1.123

In[]:=
```
PieChart[{1, 1.06, 1.12, 1.2, 1.25, 1.33, 1.4, 1.5, 1.6, 1.67, 1.8, 1.88},
 ChartLabels → {"Root", "min2", "maj2", "min3", "maj3",
   "p4", "p5", "min6", "maj6", "min7", "maj7", "Octave"}]
```

Out[]=



MERCURY ANG MOM

Hits
Venus 1.8814122278064101921, Neptune 1.8842495866323257387, ,
Saturn 1.21, Uranus 1.81, Ceres 1.04
3 × %
Jupiter 1.36 , Mars 1.43, Pluto 1.43

radius

Saturn PLANET → 1.4935237939090871225, Jupiter PLANET → 1.791869902037135641,

Venus PLANET → 1.2402754437020944696,

Neptune PLANET → 1.261579292535967486,

Mars PLANET → 1.3893210913910179014, Earth PLANET → 1.3056951196185322677,

```
2^FractionalPart[Log[2, Entity["Planet", "Mercury"]["Radius"] /
    EntityValue["Planet", "Radius", "EntityAssociation"]]]
```

Out[•]= ⟨| Mercury → 1.00, Venus → 0.806, Earth → 0.766, Mars → 0.720,
Jupiter → 0.558, Saturn → 0.670, Uranus → 0.770, Neptune → 0.79 |⟩

```
In[•]:= 2^FractionalPart[Log[2, EntityValue["Planet", "Radius", "EntityAssociation"] /
    Entity["Planet", "Mercury"]["Radius"]]]
```

Out[•]= ⟨| Mercury → 1.00, Venus → 1.24, Earth → 1.31, Mars → 1.39,
Jupiter → 1.79, Saturn → 1.49, Uranus → 1.30, Neptune → 1.26 |⟩

```
In[31]:= 2^FractionalPart[
  Log[2, Entity["Planet", "Mercury"]["Radius"] / Entity["MinorPlanet", "Pluto"]["Radius"]]]
```

Out[•]= 1.025

```
In[32]:= 2^FractionalPart[
  Log[2, Entity["Planet", "Mercury"]["Radius"] / Entity["MinorPlanet", "Ceres"]["Radius"]]]
```

Out[•]= 1.30

```
In[33]:= 2^FractionalPart[
  Log[2, Entity["Planet", "Mercury"]["Radius"] / Entity["MinorPlanet", "Eris"]["Radius"]]]
```

Out[•]= 1.049

SUN SOLAR DAY

pluto

```
In[62]:= 2^FractionalPart[Log[2, 624 / 153.3]]
```

Out[62]= 1.01761

earth

In[63]:=
```
2^FractionalPart[Log[2, 624 / 24]]
```

Out[63]= $\frac{13}{8}$

In[64]:=
```
N[13/8, 8]
```

Out[64]= 1.6250000

eris

In[65]:=
```
2^FractionalPart[Log[2, 624 / 25.9]]
```

Out[65]= 1.50579

mars

In[66]:=
```
2^FractionalPart[Log[2, 624 / 24.67]]
```

Out[66]= 1.58087

In[67]:=
```
PlanetSolDays = List[4222.6, 2802, 24, 24.67, 9, 9.9, 10.7, 17.2, 16.1, 153.3, 25.9]
```

Out[67]= {4222.6, 2802, 24, 24.67, 9, 9.9, 10.7, 17.2, 16.1, 153.3, 25.9}

In[69]:=
```
N[2^FractionalPart[Log[2, 624 / PlanetSolDays]], 4]
```

Out[69]= {0.591105, 0.8908, 1.625, 1.58087, 1.083,
1.9697, 1.82243, 1.13372, 1.21118, 1.01761, 1.50579}

In[70]:=
```
N[2^FractionalPart[Log[2, PlanetSolDays / 624]], 4]
```

Out[70]= {1.69175, 1.123, 0.6154, 0.632564, 0.9231,
0.507692, 0.548718, 0.882051, 0.825641, 0.982692, 0.664103}

Venus 1.1225961538461538461

In[77]:=
```
StarData["Sun", "Radius"]
```

Out[77]= 4.323×10^5 mi

In[78]:=
```
rSun = UnitConvert[Quantity[432287.938439513242662849`4., "Miles"], "Kilometers"]
```

Out[78]= 6.957×10^5 km

SOLAR MASS

In[80]:=
```
SoltoMass = List[.33, 4.87, 5.97, .642, .00016, 1898, 568, 86.8, 102, .0146, .0028]
```

Out[80]=
```
{0.33, 4.87, 5.97, 0.642, 0.00016, 1898, 568, 86.8, 102, 0.0146, 0.0028}
```

In[81]:=
```
N[2^FractionalPart[Log[2, 1 988 500 / SoltoMass]], 4]
```

Out[81]=
```
{1.43665, 1.5576, 1.27061, 1.47693, 1.44682, 1.023, 1.709, 1.39825, 1.190, 1.01476, 1.32281}
```

URANUS 1.3982535507272476`,

In[82]:=
SOLAR Radius

Out[82]=
```
Radius SOLAR
```

In[83]:=
```
SoltoDiameter =
 List[4879, 12 104, 12 756, 6792, .00016, 142 984, 120 536, 51 118, 49 528, 2370, 2400]
```

Out[83]=
```
{4879, 12 104, 12 756, 6792, 0.00016, 142 984, 120 536, 51 118, 49 528, 2370, 2400}
```

In[84]:=
```
N[2^FractionalPart[Log[2, 1 391 400 / SoltoDiameter]], 4]
```

Out[84]=
```
{1.114, 1.796, 1.704, 1.600, 1.01238, 1.216, 1.443, 1.701, 1.756, 1.147, 1.132}
```

Venus 1.7961520984798413748`4.,

MARS 1.6004582597173144876`4.,