

MUSICAL SCALES with

## VENUS as the FUNDAMENTAL

**ALL WITHIN .5 PERCENT UNLES MARKED**

**1. Self ODR – farthest distance from sun over closest**

**1.013023**

**2. SOLAR DAY**

**Mercury** PLANET I → **1.50697** WITHIN 0.7 PERCENT



**3. Mass**

**Ceres 1.254962911,**

**Uranus** PLANET I → **1.1147026479180199872** WITHIN 0.53 PERCENT

**4. YEAR LENGTH**

**Saturn** PLANET → **1.495836168873704021`7.6989700043360205,**

**Uranus** PLANET → **1.0669449492915491854`7.6989700043360205,**

**Jupiter** PLANET I → **1.2051637510544178951`7.698970004336017,**

**5. Venus Ang Mom**

**Neptune** PLANET I → **1.00**

**Mercury** PLANET I → **1.8814122278064101921**

**6. Radius by Venus**

**Saturn** PLANET I → **1.204,**

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# SOLAR DAY by VENUS

Mercury 1.50697, Jupiter 1.103, Uranus 1.269, Eris 1.69,

Near

Earth 1.824, Pluto 1.142, Mars 1.775, **Neptune** PLANET → 1.3588

$$In[*]:= 2^{\text{FractionalPart}[\text{Log}[2, \text{EntityValue}["Planet", "SolarDay", "EntityAssociation"] / \text{Entity}["Planet", "Venus"]["SolarDay"]]]}$$

$$Out[*]= \langle \left\{ \begin{array}{l} \text{Mercury} \rightarrow 1.50697, \text{ Venus} \rightarrow 1.000000, \text{ Earth} \rightarrow 0.548178, \text{ Mars} \rightarrow 0.563248, \\ \text{Jupiter} \rightarrow 0.90686, \text{ Saturn} \rightarrow 0.9736, \text{ Uranus} \rightarrow 0.78753, \text{ Neptune} \rightarrow 0.73594 \end{array} \right\} \rangle$$

$$In[*]:= 2^{\text{FractionalPart}[\text{Log}[2, \text{Entity}["Planet", "Venus"]["SolarDay"] / \text{EntityValue}["Planet", "SolarDay", "EntityAssociation"]]]}$$

$$Out[*]= \langle \left\{ \begin{array}{l} \text{Mercury} \rightarrow 0.66359, \text{ Venus} \rightarrow 1.000000, \text{ Earth} \rightarrow 1.824224, \text{ Mars} \rightarrow 1.775416, \\ \text{Jupiter} \rightarrow 1.1027, \text{ Saturn} \rightarrow 1.0271, \text{ Uranus} \rightarrow 1.2698, \text{ Neptune} \rightarrow 1.3588 \end{array} \right\} \rangle$$

$$In[*]:= 2^{\text{FractionalPart}[\text{Log}[2, \text{Entity}["Planet", "Venus"]["SolarDay"] / \text{Entity}["MinorPlanet", "Pluto"]["SolarDay"]]]}$$

$$Out[*]= 1.142339$$

$$In[*]:= 2^{\text{FractionalPart}[\text{Log}[2, \text{Entity}["Planet", "Venus"]["SolarDay"] / \text{Entity}["MinorPlanet", "Eris"]["SolarDay"]]]}$$

$$Out[*]= 1.69$$

$$2^{\text{FractionalPart}[\text{Log}[2, \text{Entity}["Planet", "Venus"]["SolarDay"] / \text{Entity}["MinorPlanet", "Ceres"]["SolarDay"]]]}$$

$$Out[*]= 1.358$$

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## MASS by Venus

Ceres 1.2549629112716535923`2.9609581470626276

**Uranus** PLANET → 1.1147026479180199872`3.7305827647034477,

Eris 1.138536763361656652`2.9613552846672913,

**Neptune** PLANET → 1.3152877479152496344`3.7305831065205264,

**Jupiter** PLANET → 1.5233355807827397733`3.730583975368878,  
**Saturn** PLANET → 1.8244062712592234312`3.730583949600276,  
**Mars** PLANET → 1.8962839351579334907`3.7305838682592154,  
**Earth** PLANET → 1.2269612532206282321`3.5316633408345512,

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

Out[ ]:= { Mercury → 0.543, Venus → 1.000, Earth → 1.227, Mars → 0.5273,  
Jupiter → 1.523, Saturn → 1.824, Uranus → 1.115, Neptune → 1.315 }

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

Out[ ]:= { Mercury → 1.843, Venus → 1.000, Earth → 0.815, Mars → 1.896,  
Jupiter → 0.656, Saturn → 0.548, Uranus → 0.897, Neptune → 0.760 }

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

Out[ ]:= 1.25

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

Out[ ]:= 1.453

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

Out[ ]:= 1.14

In[ ]:= -----



NEARLY ALL BODIES IN HARMONY with Venus

# YEAR LENGTH

**Saturn 1.496, Jupiter 1.205, Uranus 1.067, Ceres 1.869, Neptune 1.046,**

Near musical harmony

Earth 1.626, Mars 1.529, Mercury 1.277, Eris 1.768, Pluto 1.574

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

```
Out[ ]:= { Mercury → 0.7829902, Venus → 1.0000000, Earth → 1.6255232, Mars → 1.5286541,
Jupiter → 1.2051638, Saturn → 1.4958362, Uranus → 1.0669449, Neptune → 1.0463572 }
```

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

```
Out[ ]:= { Mercury → 1.277155, Venus → 1.0000000, Earth → 0.6151866, Mars → 0.6541702,
Jupiter → 0.8297628, Saturn → 0.6685224, Uranus → 0.9372555, Neptune → 0.9556966 }
```

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

```
Out[ ]:= 1.7681
```

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

```
Out[ ]:= 1.5741943
```

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

```
Out[ ]:= 1.8693982
```

```
In[ ]:= -----
```



# Moment Of Inertia

```
2^FractionalPart[Log[2, Entity["Planet", "Venus"]["MomentOfInertia"] /
EntityValue["Planet", "MomentOfInertia", "EntityAssociation"]]]
```

```
Out[ ]:= MomentOfInertia
```

```
Out[ ]:= { Mercury → 1.4, Venus → 1.0, Earth → 0.73, Mars → 1.4,
Jupiter → 0.82, Saturn → 0.60, Uranus → 0.60, Neptune → 0.8 }
```

```
Out[ ]:= { Mercury → 0.7, Venus → 1.0, Earth → 1.4, Mars → 0.73,
Jupiter → 1.2, Saturn → 1.7, Uranus → 1.7, Neptune → 1.2 }
```

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MAKE ANG MOMENTUM LIST

$$\text{angV} = 2/5 * \text{Entity}["\text{Planet}", "Venus"] ["\text{Mass}"] * \text{Entity}["\text{Planet}", "Venus"] ["\text{Radius}"]^2 * \text{Entity}["\text{Planet}", "Venus"] ["\text{SolarDay}"] * 2 * \pi$$

$$\text{Out[6]} = \frac{\quad}{\quad}^{12}$$

$$\text{Out[6]} = 2.02 \times 10^{34} \text{ kg mi}^2 \text{ days}$$

$$\text{In[7]} := \text{angM} = 2/5 * \text{Entity}["\text{Planet}", "Mercury"] ["\text{Mass}"] * \text{Entity}["\text{Planet}", "Mercury"] ["\text{Radius}"]^2 * \text{Entity}["\text{Planet}", "Mercury"] ["\text{SolarDay}"] * 2 * \pi$$

$$\text{Out[7]} = 3.35 \times 10^{32} \text{ kg mi}^2 \text{ days}$$

$$\text{In[8]} := \text{angE} = 2/5 * \text{Entity}["\text{Planet}", "Earth"] ["\text{Mass}"] * \text{Entity}["\text{Planet}", "Earth"] ["\text{Radius}"]^2 * \text{Entity}["\text{Planet}", "Earth"] ["\text{SolarDay}"] * 2 * \pi$$

$$\text{Out[8]} = 5.65 \times 10^{33} \text{ kg mi}^2 \text{ h}$$

$$\text{In[9]} := \text{angMa} = 2/5 * \text{Entity}["\text{Planet}", "Mars"] ["\text{Mass}"] * \text{Entity}["\text{Planet}", "Mars"] ["\text{Radius}"]^2 * \text{Entity}["\text{Planet}", "Mars"] ["\text{SolarDay}"] * 2 * \pi$$

$$\text{Out[9]} = 1.764 \times 10^{32} \text{ kg mi}^2 \text{ h}$$

$$\text{In[10]} := \text{angC} = 2/5 * \text{Entity}["\text{MinorPlanet}", "Ceres"] ["\text{Mass}"] * \text{Entity}["\text{MinorPlanet}", "Ceres"] ["\text{Radius}"]^2 * \text{Entity}["\text{MinorPlanet}", "Ceres"] ["\text{SolarDay}"] * 2 * \pi$$

$$\text{Out[10]} = 1.84 \times 10^{27} \text{ kg mi}^2 \text{ h}$$

$$\text{In[11]} := \text{angJ} = 2/5 * \text{Entity}["\text{Planet}", "Jupiter"] ["\text{Mass}"] * \text{Entity}["\text{Planet}", "Jupiter"] ["\text{Radius}"]^2 * \text{Entity}["\text{Planet}", "Jupiter"] ["\text{SolarDay}"] * 2 * \pi$$

$$\text{Out[11]} = 8.94 \times 10^{37} \text{ kg mi}^2 \text{ h}$$

$$\text{In[12]} := \text{angS} = 2/5 * \text{Entity}["\text{Planet}", "Saturn"] ["\text{Mass}"] * \text{Entity}["\text{Planet}", "Saturn"] ["\text{Radius}"]^2 * \text{Entity}["\text{Planet}", "Saturn"] ["\text{SolarDay}"] * 2 * \pi$$

$$\text{Out[12]} = 1.998 \times 10^{37} \text{ kg mi}^2 \text{ h}$$

$$\text{In[13]} := \text{angU} = 2/5 * \text{Entity}["\text{Planet}", "Uranus"] ["\text{Mass}"] * \text{Entity}["\text{Planet}", "Uranus"] ["\text{Radius}"]^2 * \text{Entity}["\text{Planet}", "Uranus"] ["\text{SolarDay}"] * 2 * \pi$$

$$\text{Out[13]} = 9.34 \times 10^{35} \text{ kg mi}^2 \text{ h}$$

$$\text{In[14]} := \text{angN} = 2/5 * \text{Entity}["\text{Planet}", "Neptune"] ["\text{Mass}"] * \text{Entity}["\text{Planet}", "Neptune"] ["\text{Radius}"]^2 * \text{Entity}["\text{Planet}", "Neptune"] ["\text{SolarDay}"] * 2 * \pi$$

$$\text{Out[14]} = 9.7 \times 10^{35} \text{ kg mi}^2 \text{ h}$$

```
In[*]:= angP = 2 / 5 * Entity["MinorPlanet", "Pluto"]["Mass"] *
          Entity["MinorPlanet", "Pluto"]["Radius"]^2 *
          Entity["MinorPlanet", "Pluto"]["SolarDay"] * 2 * π
```

```
Out[*]= 1.149 × 1029 kg mi2days
```

```
In[*]:= angE = 2 / 5 * Entity["MinorPlanet", "Eris"]["Mass"] *
          Entity["MinorPlanet", "Eris"]["Radius"]^2 *
          Entity["MinorPlanet", "Eris"]["SolarDay"] * 2 * π
```

```
Out[*]= 5.7 × 1029 kg mi2h
```

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# Venus Ang Mom

**Neptune 1.00 !!!!!**

**Merc 1.88, Mars 1.34, Pluto 1.34**

```
In[*]:= 2^FractionalPart[Log[2, angV / angMom]]
```

```
Out[*]= {1.88, 1.00, 1.63, 1.34, 1.96, 0.694, 0.776, 0.519, 1.00, 1.34, 1.63}
```

```
In[*]:= 2^FractionalPart[Log[2, angMom / angV]]
```

```
Out[*]= {0.53, 1.00, 0.61, 0.745, 0.51, 1.44, 1.29, 1.93, 1.00, 0.746, 0.61}
```

```
In[*]:= angMom = List[angM, angV, angE, angMa, angC, angJ, angS, angU, angN, angP, angE]
```

```
Out[*]= {3.35 × 1032 kg mi2days , 2.02 × 1034 kg mi2days , 5.7 × 1029 kg mi2h ,
         1.764 × 1032 kg mi2h , 1.84 × 1027 kg mi2h , 8.94 × 1037 kg mi2h , 1.998 × 1037 kg mi2h ,
         9.34 × 1035 kg mi2h , 9.7 × 1035 kg mi2h , 1.149 × 1029 kg mi2days , 5.7 × 1029 kg mi2h }
```

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## Mercury Angular Momentum

```
Out[*]= Angular Mercury Momentum
```

**Hits**

**Venus 1.88, Neptune 1.8842495866323257387, , Saturn 1.21, Uranus 1.81, Ceres 1.04**

**3 × %**

**Jupiter 1.36 , Mars 1.43, Pluto 1.43**

**Earth and Eris have 1.73 !!!!!**

```
2^FractionalPart[Log[2, angMom / angM]]
```

```
Out[*]= {1.00, 1.88, 0.58, 0.70, 0.96, 1.36, 1.21, 1.81, 1.88, 0.70, 0.58}
```

$\ln[\#] := 2^{\wedge}\text{FractionalPart}[\text{Log}[2, \text{angM} / \text{angMom}]]$

$\text{Out}[\#] := \{1.00, 0.53, 1.73, 1.43, 1.04, 0.74, 0.83, 0.55, 0.53, 1.43, 1.73\}$

-----  
 Earth Ang Mom

Eris 1.00!!!!!!

Ceres 1.2, Mars 1.21, Pluto 1.21, Saturn 1.05

$\ln[\#] := 2^{\wedge}\text{FractionalPart}[\text{Log}[2, \text{angMom} / \text{angE}]]$

$\text{Out}[\#] := \{1.73, 1.63, 1.00, 1.21, 0.83, 1.17, 1.05, 1.57, 1.63, 1.21, 1.00\}$

$\ln[\#] := 2^{\wedge}\text{FractionalPart}[\text{Log}[2, \text{angE} / \text{angMom}]]$

$\text{Out}[\#] := \{0.58, 0.61, 1.00, 0.82, 1.20, 0.85, 0.95, 0.64, 0.61, 0.82, 1.00\}$

-----  
 Mars Ang Mom

Pluto 2.00 !!!!

Earth 1.21, Eris 1.21, Venus 1.34, Neptune 1.34

$\ln[\#] := 2^{\wedge}\text{FractionalPart}[\text{Log}[2, \text{angMa} / \text{angMom}]]$

$\text{Out}[\#] := \{0.70, 0.745, 1.21, 1.000, 1.46, 0.517, 0.579, 0.773, 0.74, 2.000, 1.21\}$

$\ln[\#] := 2^{\wedge}\text{FractionalPart}[\text{Log}[2, \text{angMom} / \text{angMa}]]$

$\text{Out}[\#] := \{1.43, 1.34, 0.82, 1.000, 0.68, 1.934, 1.728, 1.293, 1.34, 0.500, 0.82\}$

-----  
 Ceres Ang Mom

Earth n Eris 1.2, Jupiter 1.41, Saturn 1.26, Uranus 1.89, Mercury 1.04

$\ln[\#] := 2^{\wedge}\text{FractionalPart}[\text{Log}[2, \text{angC} / \text{angMom}]]$

$\text{Out}[\#] := \{0.96, 0.51, 0.83, 0.68, 1.00, 0.71, 0.79, 0.53, 0.51, 0.68, 0.83\}$

$\ln[\#] := 2^{\wedge}\text{FractionalPart}[\text{Log}[2, \text{angMom} / \text{angC}]]$

$\text{Out}[\#] := \{1.04, 1.96, 1.20, 1.46, 1.00, 1.41, 1.26, 1.89, 1.96, 1.46, 1.20\}$

-----  
 Jupiter Ang Mom

Uranus 1.5, Saturn 1.119, Ceres 1.41

Merc 1.36, Earth Eris 1.17 at 3%

$\ln[\#] := 2^{\wedge}\text{FractionalPart}[\text{Log}[2, \text{angJ} / \text{angMom}]]$

$\text{Out}[\#] := \{1.36, 1.44, 1.17, 1.934, 1.41, 1.000, 1.119, 1.50, 1.44, 1.934, 1.17\}$

-----

Saturn Ang Mom

Jupiter 1.119, Merc 1.21, Earth n Eris 1.05, Ceres 1.26, Uranus 1.34

$ln[*]:= 2^{FractionalPart} [Log[2, angS / angMom] ]$

$Out[*]= \{1.21, 1.29, 1.05, 1.728, 1.26, 0.893, 1.000, 1.34, 1.29, 1.727, 1.05\}$

$ln[*]:= 2^{FractionalPart} [Log[2, angMom / angS] ]$

$Out[*]= \{0.83, 0.776, 0.95, 0.579, 0.79, 1.119, 1.000, 0.748, 0.78, 0.579, 0.95\}$

-----

Uranus ang Mom

Jupiter 1.50, Merc 1.81, Ceres 1.89, Saturn 1.34, Neptune 1.04

$ln[*]:= 2^{FractionalPart} [Log[2, angU / angMom] ]$

$Out[*]= \{1.81, 1.93, 1.57, 1.293, 1.89, 0.668, 0.748, 1.00, 0.96, 1.293, 1.57\}$

$ln[*]:= 2^{FractionalPart} [Log[2, angMom / angU] ]$

$Out[*]= \{0.55, 0.519, 0.64, 0.773, 0.53, 1.50, 1.34, 1.00, 1.04, 0.774, 0.64\}$

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Neptune Ang Momentum

Venus 1.00 !!!

Mercury 1.88, Mars n Pluto 1.34, Uranus 1.04

$2^{FractionalPart} [Log[2, angN / angMom] ]$

Out[\*]= Ang Momentum Neptune

$Out[*]= \{1.88, 1.00, 1.63, 1.34, 1.96, 0.69, 0.78, 1.04, 1.00, 1.34, 1.63\}$

$ln[*]:= 2^{FractionalPart} [Log[2, angMom / angN] ]$

$Out[*]= \{0.53, 1.00, 0.61, 0.74, 0.51, 1.44, 1.29, 0.96, 1.00, 0.74, 0.61\}$

-----

Pluto Ang Momentum

Mars 2.00 !!!

Earth n Eris 1.21, Venus n Neptune 1.34

$ln[*]:= 2^{FractionalPart} [Log[2, angP / angMom] ]$

$Out[*]= \{0.70, 0.746, 1.21, 0.500, 1.46, 0.517, 0.579, 0.774, 0.74, 1.000, 1.21\}$

$ln[*]:= 2^{FractionalPart} [Log[2, angMom / angP] ]$

$Out[*]= \{1.43, 1.34, 0.82, 2.000, 0.68, 1.934, 1.727, 1.293, 1.34, 1.000, 0.82\}$



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### Eris Ang Momentum

**Earth 1.000 !**

**Ceres 1.20**

**Mars n Pluto 1.21, Saturn 1.05**

`In[ ]:= 2^FractionalPart[Log[2, angMom / angE] ]`

`Out[ ]:= {1.73, 1.63, 1.00, 1.21, 0.83, 1.17, 1.05, 1.57, 1.63, 1.21, 1.00}`

`In[ ]:= 2^FractionalPart[Log[2, angE / angMom] ]`

`Out[ ]:= {0.58, 0.61, 1.00, 0.82, 1.20, 0.85, 0.95, 0.64, 0.61, 0.82, 1.00}`

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### Radius by Venus

**Saturn 1.204, Mercury 1.24, Ceres 1.61, Uranus 1.048 , Mars 1.785**

**almost Pluto 1.271 a little over 2 × % though it rounds down**

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

`Out[ ]:= { Mercury → 1.24, Venus → 1.000, Earth → 0.950, Mars → 1.785,  
Jupiter → 0.692, Saturn → 0.830, Uranus → 0.954, Neptune → 0.98 }`

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

`Out[ ]:= { Mercury → 0.806, Venus → 1.000, Earth → 1.053, Mars → 0.560,  
Jupiter → 1.445, Saturn → 1.204, Uranus → 1.048, Neptune → 1.02 }`

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

`Out[ ]:= 1.271`

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

`Out[ ]:= 1.301`

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

`Out[ ]:= 1.61`