**Harold’s Trigonometry**

**“Cheat Sheet”**

18 January 2023

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| **Unit Circle** | **Trig Chart** |
| https://netfiles.uiuc.edu/clow1/590NET/triangle_on_unit_circle.jpg?uniq=l9hkg |  (Quadrant I only)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Degrees** | **0°** | **30°** | **45°** | **60°** | **90°** |
| Radians | 0 | /6 | /4 | /3 | /2 |
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|  🡨  |  |  |  |  |  |
|  Pattern |  |  |  |  |  |
| Tan Pattern |  |  |  |  | Und |

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| **Graphical Representation Of The Six Trig Functions** |
| https://netfiles.uiuc.edu/clow1/590NET/CAST.jpg?uniq=-s9wwqmFile:Trigonometric functions.svgππ**“A**ll **S**tudents **T**ake **C**alculus” |
| **The Six Trig “Levers”** | ***y = a sin (b (x - h)) + k*** | **Graphing Tips** | **Notes** |
| 1. Move up/down ↕
 | k (Vertical translation) |  | If k = f(x) then x-axis is replaced by f(x)-axis |
| 1. Move left/right ↔
 | h (Phase shift) | *‘+‘ shifts right* |  |
| 1. Stretch up/down ↕
 | a (Amplitude) |  | a is NOT peak-to-peak on the y-axis |
| 1. Stretch left/right ↔
 | b (Frequency 2) |  | T = peak-to-peak on the -axis for and  |
| 1. Flip about y-axis ⭯
 | b → –b | *f(x) → f(-x)* | Even Function:  |
| 1. Flip about x-axis ⭮
 | a → –a | *f(x) → –f(x)* | Odd Function:  |

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| **Unit Circle** |
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**Source**: Unit Circle Quick Lesson - Matter of Math

<https://matterofmath.com/trigonometry/unit-circle/>