

### Radian

Number of radians=arc length/radius of same circle

$$q = S/r$$

If one revolution is  $360^\circ$ , radians will be circumference/radius. This will give us  $2\pi r/r$  and therefore  $2\pi rad=360$  and finally,  $1 rad=57.3^\circ$  (after dividing)

This also proves that  $1 rad$  in one revolution= $2\pi$

### Steradian

Number of steradians in sphere= area of sphere/ $r^2$ . Thus, steradians in sphere= $4\pi$

### Prefixes

| Prefix | Decimal Multiplier | Symbol |
|--------|--------------------|--------|
| yotta  | $10^{24}$          | Y      |
| zetta  | $10^{21}$          | Z      |
| Exa    | $10^{18}$          | E      |
| Peta   | $10^{15}$          | P      |
| Tera   | $10^{12}$          | T      |
| giga   | $10^9$             | G      |
| Mega   | $10^6$             | M      |
| kilo   | $10^3$             | k      |
| hecto  | $10^2$             | h      |
| deca   | $10^1$             | da     |
| deci   | $10^{-1}$          | d      |
| centi  | $10^{-2}$          | c      |
| milli  | $10^{-3}$          | m      |
| micro  | $10^{-6}$          | $\mu$  |
| nano   | $10^{-9}$          | n      |
| pico   | $10^{-12}$         | p      |
| femto  | $10^{-15}$         | f      |
| atto   | $10^{-18}$         | a      |
| zepto  | $10^{-21}$         | z      |
| yocto  | $10^{-24}$         | y      |

### Uncertainties

#### Sum and Difference

The normal values always follow the given operation however, the uncertainties **ALWAYS** get added

#### Product and Quotient

The normal values always follow the given operation however, the uncertainties are first **converted into %**, **added** and finally **converted back** (only if needed)

#### Power

The normal value gets solved as normal however, the uncertainty is **converted into %**, **multiplied to the given power** and finally **converted back** (only if needed)

### Significant Figures

#### Addition and Subtraction

Krd

#### Multiplication and Division

Oks