Angles

0.1 Angle Relationships

Complimentary: Positive angles that add to 90° or $\frac{\pi}{2}$
Supplementary: Positive angles that add to 180° or π

0.2 Degree Units

$$1^\circ = 60' \text{ minutes}$$
$$1' = 60'' \text{ seconds}$$
$$1^\circ = 3600''$$

0.3 Transfer

0.3.1 RMS $\rightarrow$ Degrees

$$X^\circ + Y' + Z'' = (X + \frac{y}{60} + \frac{z}{3600})^\circ$$

0.3.2 Degrees $\rightarrow$ RMS

$$47.31^\circ$$
$$47^\circ + (0.31 * 60')$$
$$47^\circ + 18.6'$$
$$47^\circ + 18' + (0.6 * 60'')$$
$$47^\circ + 18' + 36''$$

0.4 Formulas

Make sure to check units Assume:
- θ: Central Angle (Radians)
- r: Radius
- t: Time

0.4.1 Arc Length (S)

$$S = r * \theta$$

0.4.2 Area of Sector (A)

$$A = \frac{1}{2} * r^2 * \theta$$

0.4.3 Angular Speed (ω)

$$\omega = \frac{\theta}{t}$$

0.4.4 Linear Speed (v)

$$v = \frac{r * \theta}{t} = \frac{s}{t}$$