TRIGONOMETRY

\[ \sin A = \frac{\text{opposite}}{\text{hypotenuse}} \]

\[ \cos A = \frac{\text{adjacent}}{\text{hypotenuse}} \]

\[ \tan A = \frac{\text{opposite}}{\text{adjacent}} \]

Law of Sines: \[ \frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C} \]

Law of Cosines: \[ a^2 = b^2 + c^2 - 2bc \cos A \]

Area of a Triangle: \[ K = \frac{1}{2} ab \sin C \]

GEOMETRY

Area of a Triangle: \[ A = \frac{1}{2} ab \]

Area of a Trapezoid: \[ A = \frac{1}{2} h(b_1 + b_2) \]

Lateral Area of a Right Circular Cylinder: \[ L = 2\pi rh \]

Lateral Area of a Right Circular Cone: \[ L = \pi rl \text{ where } l \text{ is the slant height} \]

Surface Area of a Rectangular Prism: \[ SA = 2lw + 2hw + 2lh \]

Surface Area of a Cylinder: \[ SA = 2\pi r^2 + 2\pi rh \]

Surface Area of a Sphere: \[ SA = 4\pi r^2 \]

Volume of a Cylinder: \[ V = \pi r^2 h \]

Volume of a Pyramid: \[ V = \frac{1}{3} Bh \text{ where } B \text{ is the area of the base} \]

Volume of a Right Circular Cone: \[ V = \frac{1}{3} \pi r^2 h \]

Volume of a Sphere: \[ V = \frac{4}{3} \pi r^3 \]
COORDINATE GEOMETRY

Slope of a Line: \[ m = \frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1} \]

Sum of a Finite Arithmetic Series: \[ S_n = \frac{n(a_1 + a_n)}{2} \]

Sum of a Finite Geometric Series: \[ S_n = \frac{a_1(1 - r^n)}{1 - r} \]