MATHS FORMULA SHEET

COORDINATE GEOMETRY

Reflection

- ❖ Co–ordinates of origin = (0,0)
- ❖ Co–ordinates of X-axis = (x,0)
- ❖ Co–ordinates of Y-axis = (0,y)
- ❖ Equation of X-axis is y=0
- ❖ Equation of Y-axis is x=0
- ❖ $M_X(x,y) = (x,-y)$
- ❖ $M_Y(x,y) = (-x,y)$
- ❖ $M_0(x,y) = (-x,-y)$

Section and Midpoint Formula

- ❖ Section formula is $\left[\dfrac{mx_2 + nx_1}{m+n} , \dfrac{my_2 + ny_1}{m+n} \right]$
- ❖ Midpoint formula is $\left(\dfrac{x_1 + x_2}{2} , \dfrac{y_1 + y_2}{2} \right)$
- ❖
- ❖ Centroid of a triangle is divides each median in the ratio 2:1

Equation of a line

- ❖ m = tan Θ
- ❖ $m = \Delta y/\Delta x = (y_2 - y_1)/(x_2 - x_1)$
- ❖ For parallel lines having slopes m_1 and m_2, $m_1 = m_2$
- ❖ For perpendicular lines slopes m_1 and m_2, $m_1 * m_2 = -1$
- ❖ For three collinear points A, B and C, slope of AB = slope of BC
- ❖ Slope-intercept form → y = mx+c
- ❖ Point-slope form → $(y-y_1) = m(x-x_1)$
- ❖ Two- point form $(y-y_1) = m(x-x_1)$