

- 14.) Find the polar co-ordinates of the points of intersection of the graphs of $r^2 = 9 \cos 2\theta$ and $r = 3\sqrt{2} \sin \theta$
- 15.) Find an equation in polar co-ordinates of the circle which has the line segment from $(0, \frac{\pi}{3})$ to $(12, \frac{\pi}{3})$ as a diameter.
- 16.) For the ellipse: $x^2 + 9y^2 - 4x + 54y + 49 = 0$, find the co-ordinates of the center, foci and vertices, the eccentricity and graph it.
- 17.) For the hyperbola: $-2x^2 + By^2 + 4x + 108y + 142 = 0$, find the co-ordinates of the center, foci and vertices, the equations of the asymptotes, the eccentricity and graph it.
- 18.) For the ellipse: $x^2 + xy + y^2 = 6$, write the rotated form (in x' & y') which has $B'x'y' = 0$. Find a, b, c and graph the equation labeling x, y, x' & y' axes
- 19.) Find an equation of the parabola with vertical axis which passes through the points $(7, 6)$, $(4, 3)$ and $(5, 2)$.

20.) Prove Analytically: The diagonals of a rhombus are perpendicular.