

- If we have to find the family of circle touches a fixed point(a,b) on a straight line L=0 then the solution is ,
 $(x - a)^2 + (y - b)^2 + \lambda L = 0$ is the particular value of the parameters λ which gives a unique circle. The equation of the Family of Circles touches the line $y - b = m(x - a)$ at (a, b) for any values of m is $(x - a)^2 + (y - b)^2 + \lambda[(y - b) - m(x - a)] = 0$
- Equation of chord of circle whose equation is $C(x,y)=x^2+y^2+2gx+2fy+c=0$ when it's midpoint(a,b) is given by $ax + by + g(x + a) + f(y + b) + c = C(a, b)$
- length of chord of contact of circle can be calculated as:
 $2\sqrt{r^2 - d^2}$, where r is the radius of the circle and d is the perpendicular distance of the centre of the circle to the chord.