

Curve Tracing

1. Method of curve tracing for cartesian Equation of the curve.

I.) Symmetry of curve about axes or any line.

(a) The symmetry of a curve is judged as follows —

If in the Equation of a curve only even powers of  $x$  occur, the curve is symmetrical about  $y$ -Axis; if only even power of  $y$  occur, then the curve is symmetrical about  $x$ -Axis.

If only even powers of  $x$  and  $y$  both occur in the Equation, then the curve is symmetrical about both axes.

i.e. the curve  $y^2 = 4ax$  is symmetrical about  $x$ -axis only, the curve  $x^2 = 4ay$  is symmetrical about  $y$ -axis only; the curve  $x^2 + y^2 = a^2$  is symmetrical about both axes.

Note

Replace  $x$  for  $y$  and  $y$  for  $x$  and if there is no change in Equation the curve is symmetrical about the  $y = x$ .