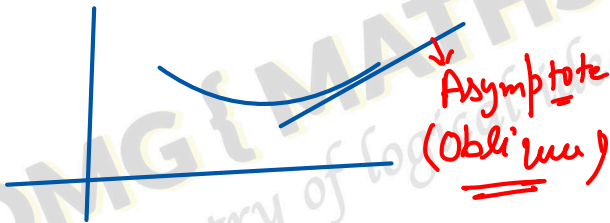
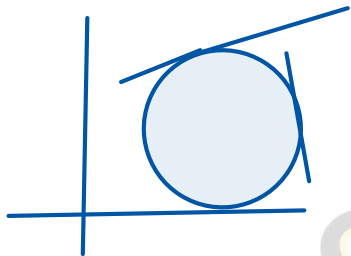


Calculus II

Asymptotes



\parallel x-axis \rightarrow horizontal asymptote } Rectangular

\parallel y-axis \rightarrow Vertical asymptote } asymptote

Write down by inspection or otherwise,
the vertical and horizontal asymptote
of the curve

$$3xy + 5x - 4y - 3 = 0$$

Given Curve is

$$3xy + 5x - 4y - 3 = 0$$

$$(3y + 5)x - 4y - 3 = 0$$

Sol.
=



Asymptote || to x -axis is

$$3y + 5 = 0$$

horizontal asymptote is $3y + 5 = 0$

$$3xy + 5x - 4y - 3 = 0 \quad (\text{Given})$$

for Vertical asymptote

$$(3x - 4)y + 5x - 3 = 0$$

$3x - 4 = 0$ is Vertical asymptote

② Find the asymptotes parallel to axes of the curve

$$x^2y - 3x^2 - 5xy + 6y + 2 = 0$$

$$(y - 3)x^2 - 5xy + 6y + 2 = 0$$

Asymptote \parallel to x -axis is

$$y - 3 = 0$$

$$x^2y - 3x^2 - 5xy + 6y + 2 = 0$$

$$(x^2 - 5x + 6)y - 3x^2 + 2 = 0$$

$$x^2 - 5x + 6 = 0$$

$$x^2 - 3x - 2x + 6 = 0$$

$$x(x-3) - 2(x-3) = 0$$

$$(x-2)(x-3) = 0$$

\therefore Asymptotes \parallel to y -axis are



OMG! MATHS }
The poetry of logical ideas.