

Learning objectives:

1. To draw a rough sketch of the graph of a given function, highlighting important points.

Guidelines for sketching a curve

1. Domain
2. Intercepts
3. Symmetry
4. Asymptotes
5. Intervals of increase or decrease
6. Local maximum and minimum values
7. Concavity and points of inflection
8. Combining the above information to sketch the curve

Example 1. Sketch the curve $y = \frac{2x^2}{x^2 - 1}$.

Example 2. Sketch the curve $y = \frac{x^2}{\sqrt{x+1}}$.

Example 3. Sketch the curve $y = \frac{\cos x}{2 + \sin x}$.