A Modular Presentation System for the Calculus Sequence

4.5 Summary of Curve Sketching

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Procedure for Graphing by Hand

Problem: Graph $y = f(x)$.

1. Find y' and y''.
2. Find the rise and fall of the curve.
3. Determine the concavity of the curve.
4. Determine the asymptotes of the curve.
5. Make a summary and show the curve's general shape.
6. Plot specific points and sketch the curve.

Sketching Graphs of Functions

Sketch the graph of each of the following functions.

EXAMPLE:

$$f(x) = 20x^3 - 3x^5$$

EXAMPLE:

$$f(x) = \frac{3x - 5}{x - 2}$$

EXAMPLE:

$$f(x) = \frac{x^2 - x - 2}{x - 3}$$