

Curve sketching

This *will* be collected on Wednesday, October 21.

1. Let $f(x) = \frac{x^3-6}{x}$.
 - (a) Find all asymptotes (horizontal, vertical, oblique, or curvilinear) of f .
 - (b) Find all critical points and inflection points of f .
 - (c) Determine where f is increasing/decreasing and concave up/down.
 - (d) Use the above information to sketch $y = f(x)$. In your sketch, include any asymptotes, and label the coordinates of any critical points and inflection points.