

Math 10350 Written Assignment 07
Curve Sketching Packet 02

1. Sketch the graph of $f(x) = x^3 - \frac{3}{2}x^2$ by completing the steps below.

1a. Find all x -intercepts and y -intercept of the graph of $f(x)$ whenever possible.

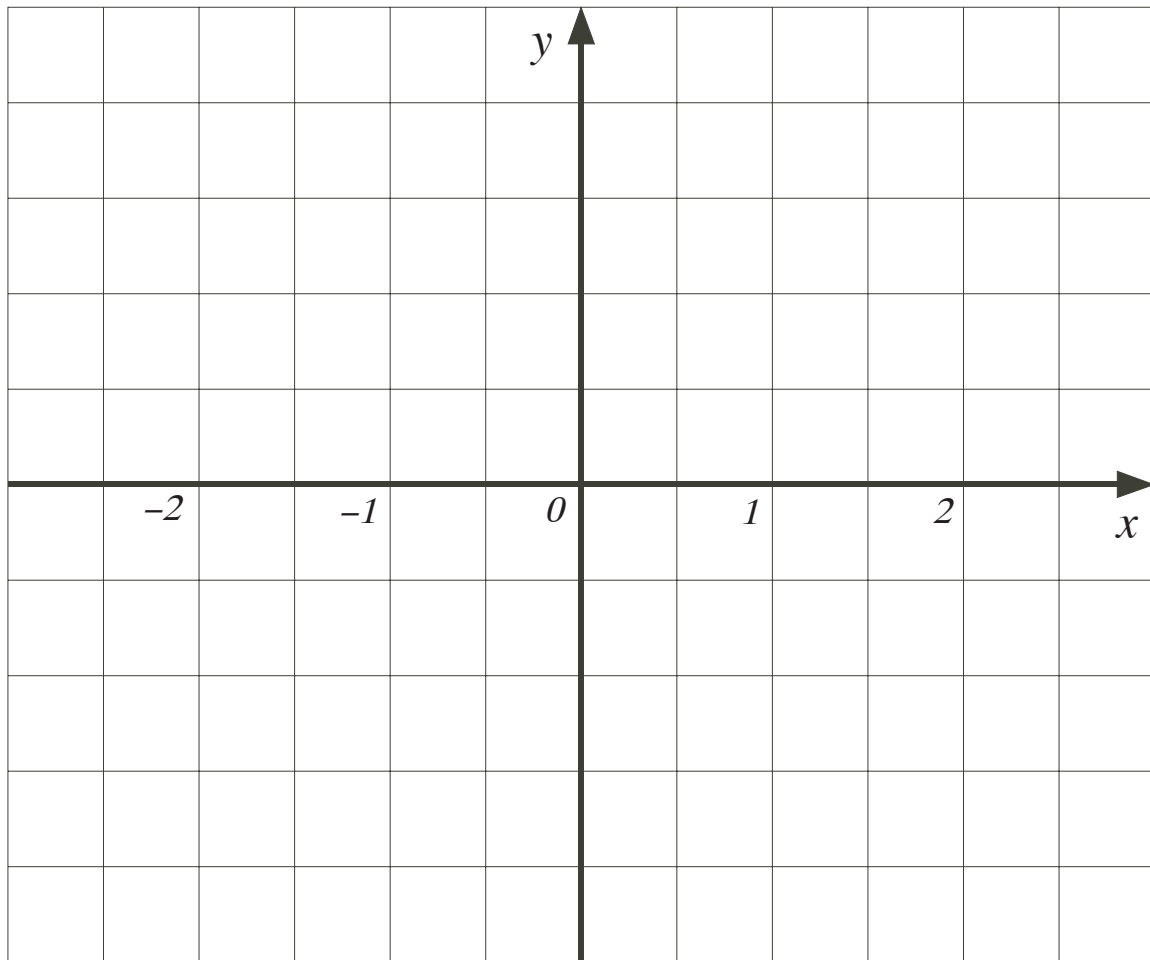
1b. Find coordinates of all critical points, vertical asymptotes, and places where $f(x)$ are undefined.

1c. Determine where $f(x)$ is increasing and where it is decreasing. Give your answer using interval notation.

1d. Determine the concavity and coordinates of inflection points of $f(x)$.

1e. Find all asymptotes and limit at infinity whenever applicable. Check for any symmetry.

1f. Sketch the graph below labeling all important features. Your picture should be large and clear.



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2. Sketch the graph of $g(x) = \frac{x}{x^2 - 1}$ by completing the steps below.

2a. Find all x -intercepts and y -intercept of the graph of $g(x)$ whenever possible.

2b. Find coordinates of all critical points, vertical asymptotes, and places where $g(x)$ are undefined.

2c. Determine where $g(x)$ is increasing and where it is decreasing. Give your answer using interval notation.

2d. Find $g''(x)$ completely simplifying your answer. You should cancel out all common factors.

2e. Determine the concavity and coordinates of inflection points of $g(x)$.

2f. Find all asymptotes and limit at infinity whenever applicable. Check for any symmetry.

2g. Sketch the graph below labeling all important features. Your picture should be large and clear.

