

8.13 Graphing Rational Functions

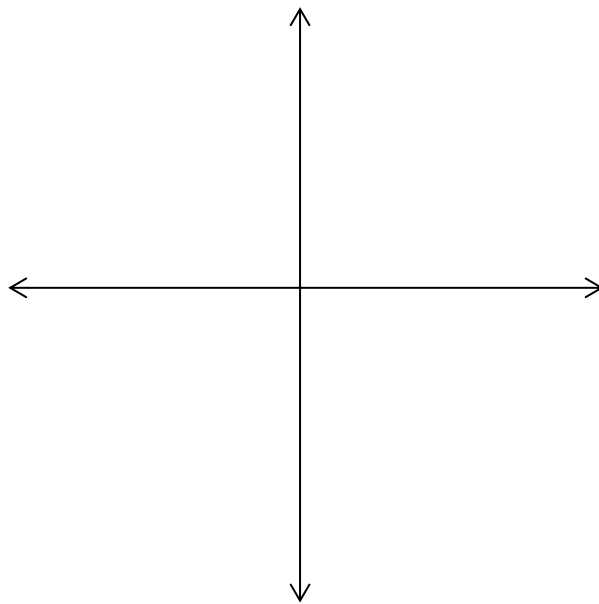
Name _____

For each function below,

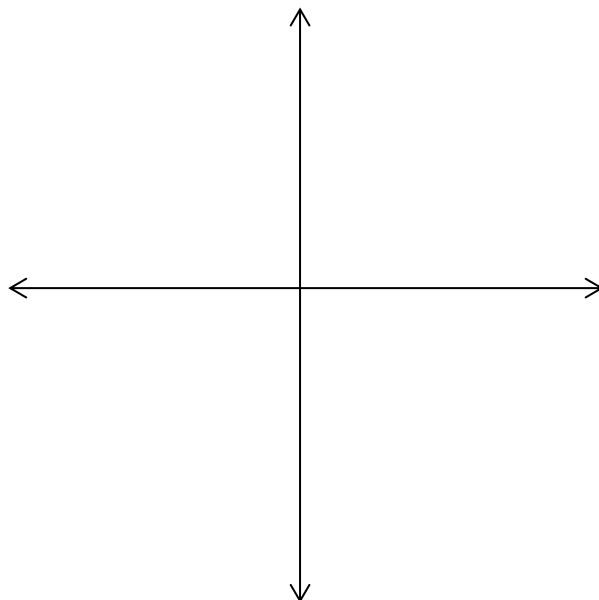
- identify and plot the appropriate asymptotes;
- Identify and plot the intercepts;
- Identify any holes;
- Identify any points at which the function crosses its HA;
- Sketch the branches of the graph according to the work above. If necessary, be sure to include a hole where there should be one.

Show your work.

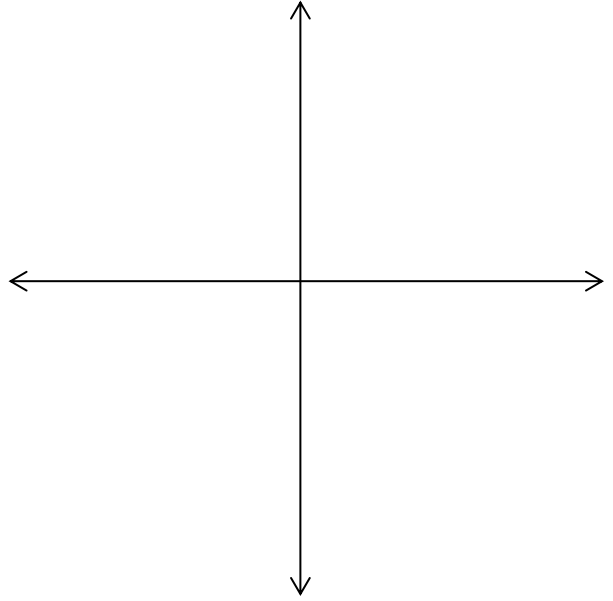
$$f(x) = \frac{x^3 - x}{x^2 - x - 2}$$



$$f(x) = \frac{x^2 + x}{x^2 - 1}$$



$$g(x) = \frac{x^2 - 64}{x^3 - 8x^2 - 4x + 32}$$



$$p(x) = \frac{(x - 5)(x - 1)(x + 2)}{(x)(x + 2)(x + 6)}$$

