

Let us consider the function  $f(x) = x^2 + \frac{2}{x}$ . Let us follow the curve sketching procedure to sketch this function.

1. What is the domain of  $f(x)$ ?
  
  
  
  
  
  
  
  
  
  
2. Compute  $f'(x)$  and  $f''(x)$ .
  
  
  
  
  
  
  
  
  
  
3. Find the critical points of  $f(x)$ .
  
  
  
  
  
  
  
  
  
  
4. Find the intervals on which the functions is increasing/decreasing. Determine if the critical points are local min/max or neither.
  
  
  
  
  
  
  
  
  
  
5. Determine the intervals where the functions is concave up/dow and where concavity changes.
  
  
  
  
  
  
  
  
  
  
6. Identify the asymptotes (if any).

