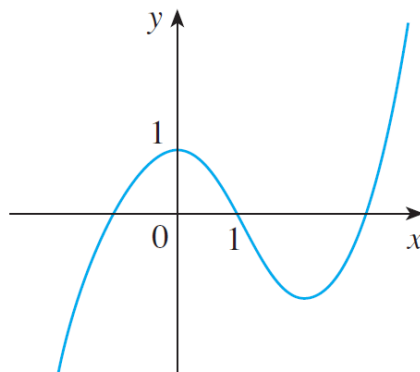


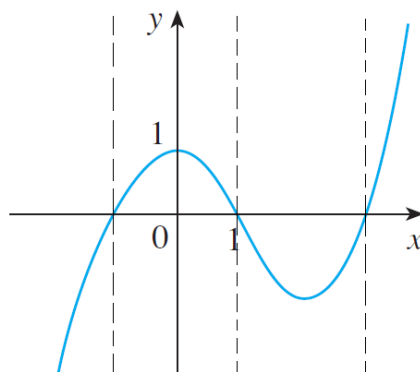
Exercise 30

Use the given graph of f to sketch the graph of $y = 1/f(x)$. Which features of f are the most important in sketching $y = 1/f(x)$? Explain how they are used.

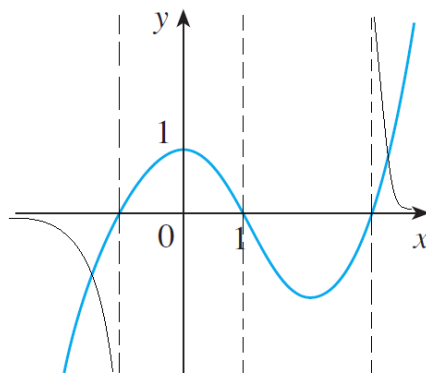


Solution

The most important features of f are the zeros because they are where the vertical asymptotes are located in $1/f$.



If the graph of f is negative (positive), then the graph of $1/f$ is negative (positive) as well. At a zero the inverse function diverges, and as $x \rightarrow \pm\infty$, the function tends to zero.



When $f = 1$, the inverse is also equal to 1. The inverse function diverges at the zeros of f .

