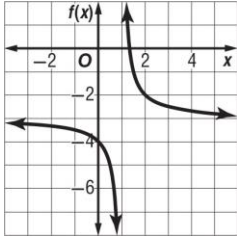


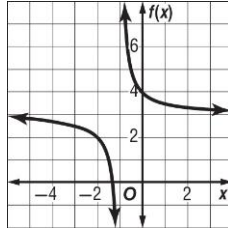
7-3 Graphing Reciprocal Functions

Identify the asymptotes, domain, range and end behavior of each function.

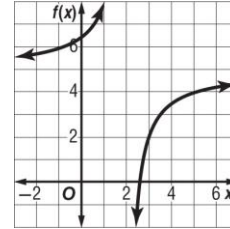
1. $f(x) = \frac{1}{x-1} - 3$



2. $f(x) = \frac{1}{x+1} + 3$

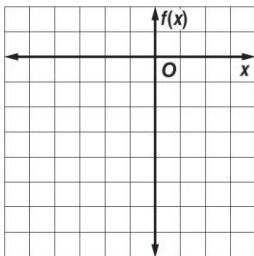


3. $f(x) = \frac{-3}{x-2} + 5$

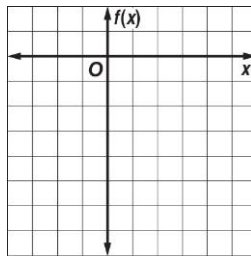


Graph each function. State the domain and range.

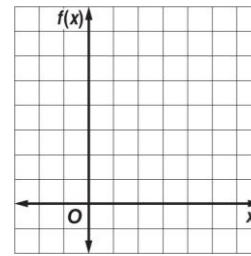
4. $f(x) = \frac{1}{x+1} - 5$



5. $f(x) = \frac{-1}{x-3} - 4$



6. $f(x) = \frac{3}{x-2} + 4$



7. **RACE** Kate enters a 120-mile bicycle race. Her usual rate is 10 miles per hour, but Kate plans to average x miles per hour faster than that. Write and graph an equation to represent the time it would take Kate to complete the race as a function of x (Kate's speed beyond 10 miles per hour). If she intends to finish the race in 5 hours instead of 12 hours at her usual rate, how much faster should she travel?

