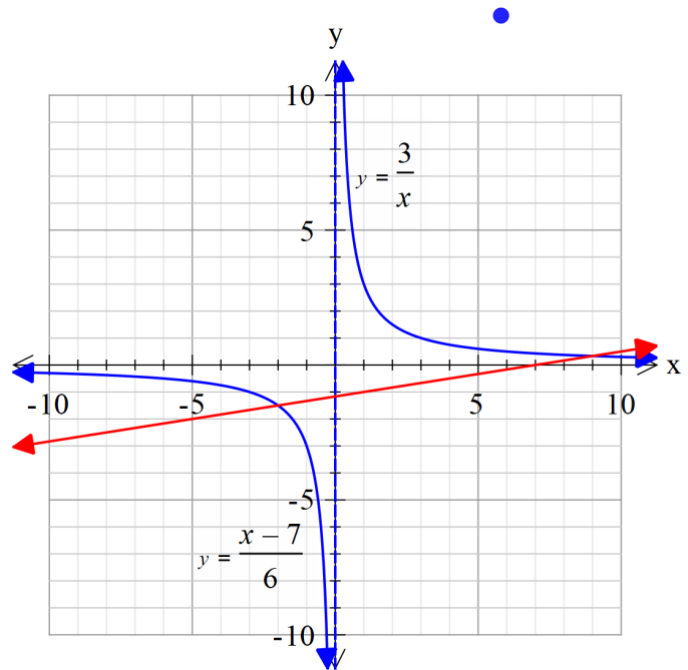


Pre-Calculus 12: Solving Rational Equations

Solve the following rational equation algebraically. State any non-permissible values for x .

Example 1: $\frac{3}{x} = \frac{x-7}{6}$

The solution(s) can also be determined graphically. Identify on the graph shown below where the solutions from Example 1 are. Explain how the solutions from Example 1 correspond with the points you identified on the graph.



Example 2: Solve algebraically: $\frac{3}{2x} - \frac{2x}{x+1} = -2$ State any non-permissible values.

Example 3: Solve algebraically: $\frac{x}{x-1} - 2x = \frac{x+1}{2x-2}$

State any non-permissible values.

Example 4: Solve algebraically: $\frac{x-1}{x} = \frac{1}{x-1} - \frac{1}{x^2-x}$

State any non-permissible values.