5.5 Practice Problems

1. Analyze the graph of the rational function. $R(x)=\frac{x-2}{x^2-9}$

a. Factor the numerator and denominator and find the domain of the function.

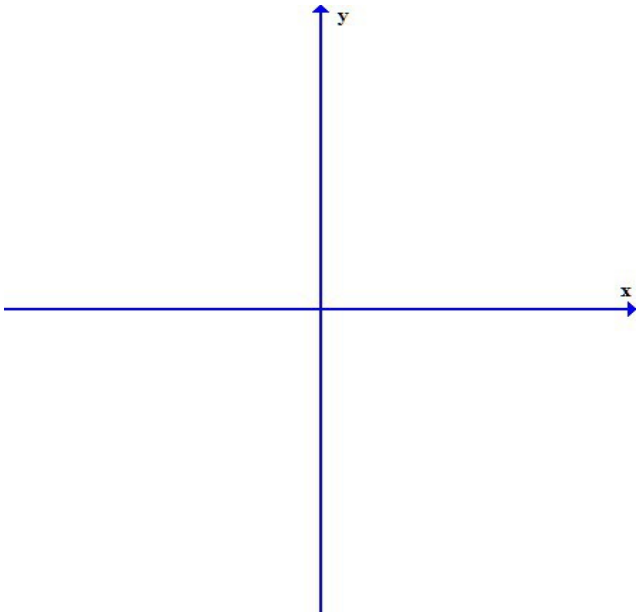
b. Write the function in lowest term and locate the vertical asymptotes.

c. Locate the intercepts of the graph.

d. Locate the horizontal or oblique asymptotes. Determine points, if any at which the graph intersects this asymptote.

e. Use a graphing utility to confirm your results and to approximate any turning points.

f. Sketch a graph using the information you have gathered.



2. Analyze the graph of the rational function. $R(x)=\frac{2x^2+4x}{x^2+x-6}$

a. Factor the numerator and denominator and find the domain of the function.

b. Write the function in lowest term and locate the vertical asymptotes.

c. Locate the intercepts of the graph.

d. Locate the horizontal or oblique asymptotes. Determine points, if any at which the graph intersects this asymptote.

e. Use a graphing utility to confirm your results and to approximate any turning points.

f. Sketch a graph using the information you have gathered.