Retake 8A: Rational functions

MATH 1110, FALL 2017

NAME:

1. (10 points) Consider the rational function.

$$R(x) = -\frac{x^2 - 1}{2x^3 - 12x^2 + 18x}$$

(a) Analyze the ratio of leading terms to find the end behavior. If the function has a horizontal asymptote or a slant asymptote, give its equation.

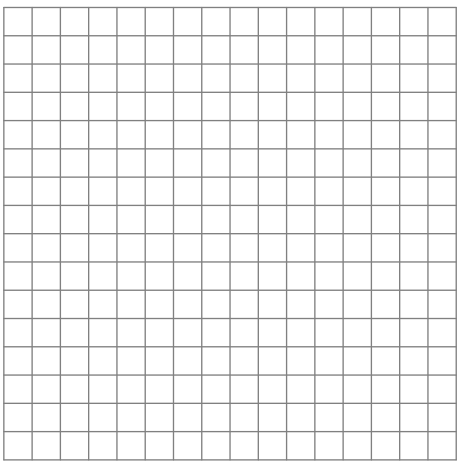
(b) Find the x-intercepts of the graph, if any.

(c) Find the equations for the vertical asymptotes, if any.

(d) Give the x-coordinates for any holes that you identify.

(e) Based on your work on the previous parts, give the $x-$ and y-coordinates for an appropriate selection of test points.

(f) Graph the function



2. (10 points) Write an equation for the rational function shown in the graph. The asymptotes are shown as dashed lines.