

## Quiz 8A: Rational functions

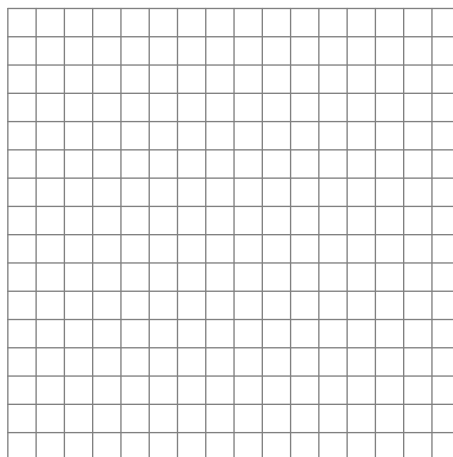
MATH 1110, FALL 2017

NAME:

1. (10 points) Consider the rational function.

$$R(x) = \frac{2x^2 + 8x}{x^2 + 2x - 3}$$

- (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.

