

Group #: _____ Name: _____

1. (25 points each) Find the x , y -intercepts, **horizontal** and **vertical asymptotes**. Examine the function behavior around the function zeros and the x -intercept of the vertical asymptotes. For example, you may consider filling out the table

x -value	+, -, or undefined?	zero, asymptote or test point?
⋮	⋮	⋮

Then, use the information in the *behavior chart* to **sketch a graph** of the given rational function. If necessary, plot additional points to ensure the accuracy of the graph. If available, verify your graph with a computer or a calculator.

(a) $r(x) = \frac{2x + 6}{-6x + 3}$

(b) $r(x) = \frac{2x - 4}{x^2 + x - 2}$

(c) $r(x) = \frac{4x^2}{x^2 - 2x - 3}$

(d) $r(x) = \frac{2x^2 + 2x - 4}{x^2 + x}$