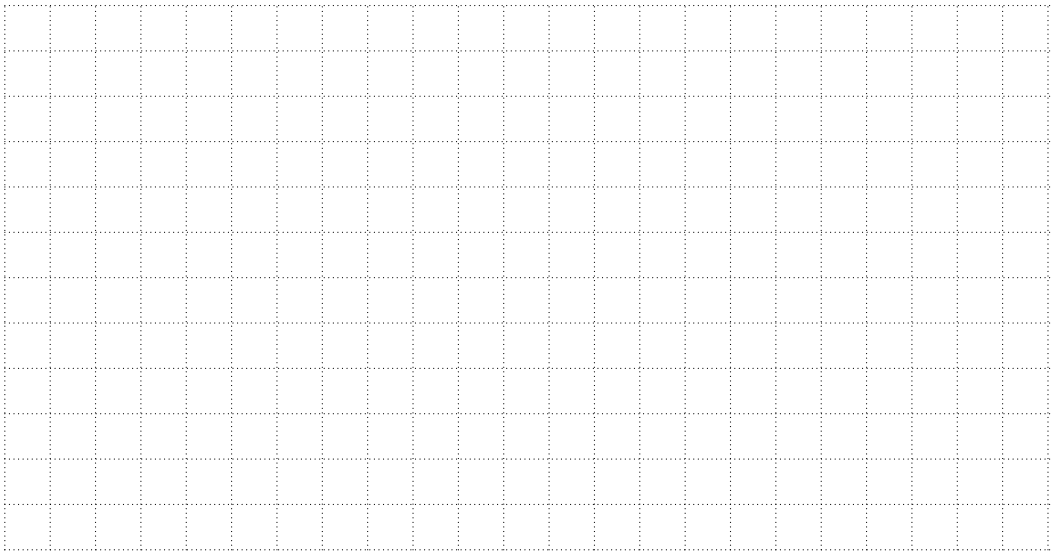
MODULE 6

RATIONAL FUNCTIONS AND INEQUALITIES

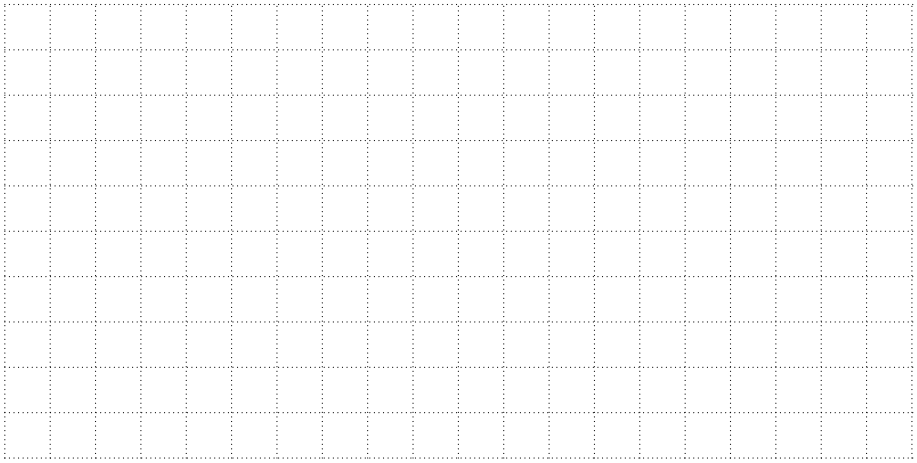
Name:_____ Points:_____

Exercise 1. Find the domain, vertical asymptotes, removable singularities, horizontal asymptotes, and x- and y-asymptotes. Sketch the graph.

(a) $f(x) = \frac{6-x}{x^2-6x+8}$

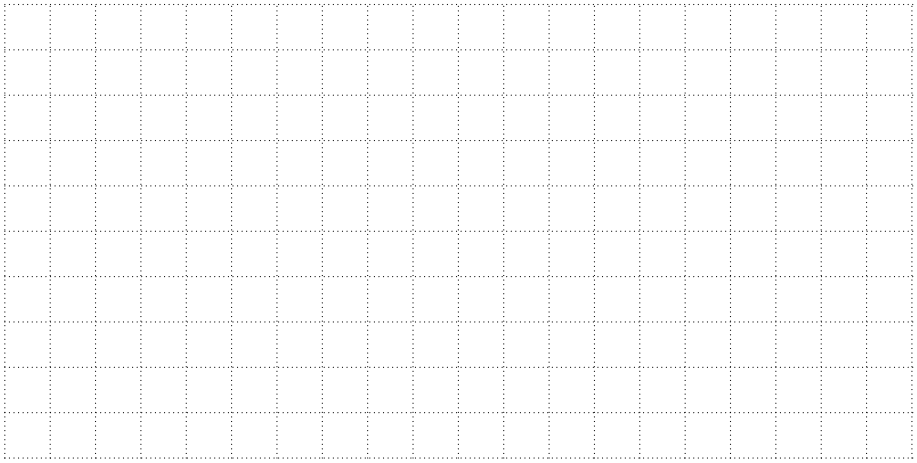


(b) $f(x) = \frac{x^2-9}{x^2+6x+5}$



(c) $f(x) = \frac{4-x^2}{x-1}$

(d) $f(x) = \frac{x^2-2x-3}{x^2-1}$



Exercise 2. Solve for x.

(a) $x^2 - 5x + 5 > 0$

(b) $\frac{x+7}{x^2-4} \geq 0$

(c) $|2x + 3| < 7$