Math Analysis Honors- Worksheet 29 Name_____
Rational Functions

Directions: Analyze and Graph each Rational Function

$$f(x)=\frac{x^2-3x+2}{x^3+3x^2-4x}$$

Domain:

Discontinuities:

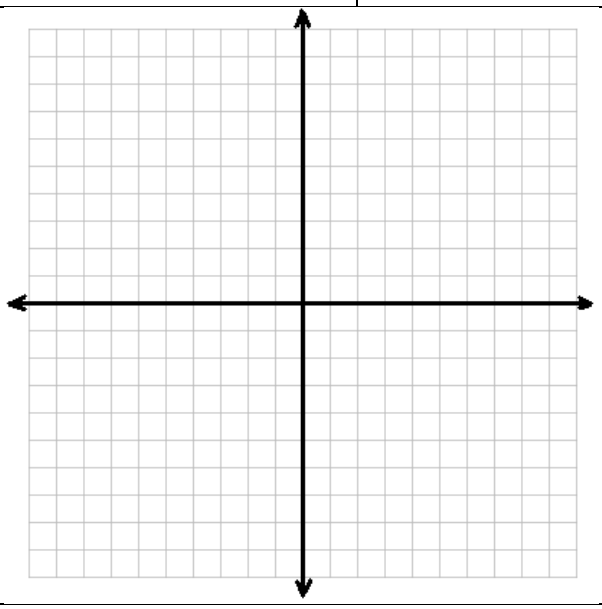
***x*-intercepts**

***y*-intercepts**

Vertical Asymptotes:

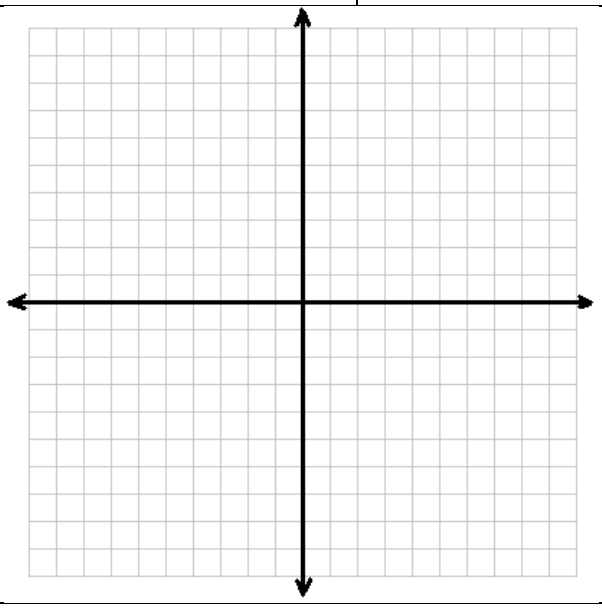
Holes (including *y*-value):

End Behavior Asymptote (DOMINANCE):



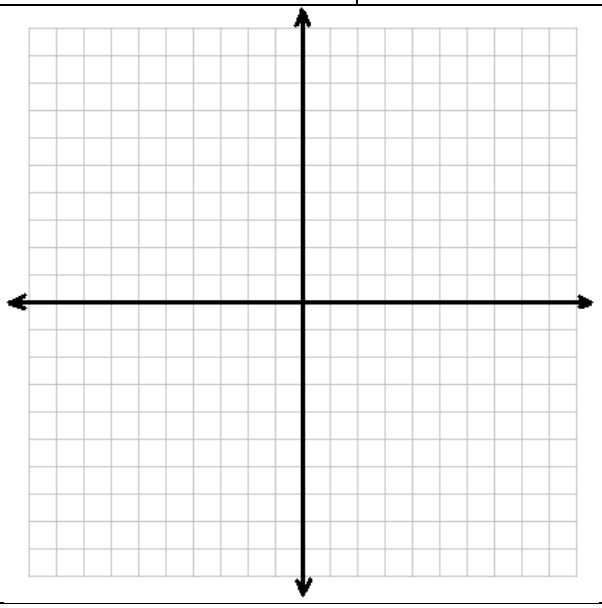
Other Key points: (make table) –Use if necessary

$$f(x)=\frac{x^2-2x-3}{x^2-5x+6}$$

Domain:		**Discontinuities:**	
***x*-intercepts**	***y*-intercepts**	**Vertical Asymptotes:**	**Holes (including *y*-value):**
End Behavior Asymptote (DOMINANCE):			

Other Key points: (make table) –Use if necessary

$$f(x)=\frac{x^2+x-12}{x+2}$$

Domain:		**Discontinuities:**	
***x*-intercepts**	***y*-intercepts**	**Vertical Asymptotes:**	**Holes (including *y*-value):**
End Behavior Asymptote (DOMINANCE):			

Other Key points: (make table) –Use if necessary

Write a rational function that has a horizontal asymptote of $y = 3$, vertical asymptotes of $x = -2$ and $x = 5$, and a hole at $x = 1$. (There are many correct answers) Simplify your final answer.