

Name _____

Date _____

Writing rational functions given characteristics:

1. V.A. : $x = \underline{\hspace{2cm}}$ and $x = \underline{\hspace{2cm}}$

2. V.A.: $x = \underline{\hspace{2cm}}$ and $x = \underline{\hspace{2cm}}$

H.A.: $y = \underline{\hspace{2cm}}$

3. H.A.: $y = \underline{\hspace{2cm}}$ & y-int of $\underline{\hspace{2cm}}$

4. No V.A. and x-int of $\underline{\hspace{2cm}}$

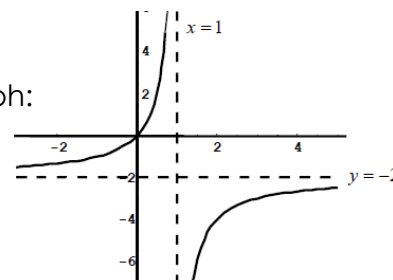
Write a rational function with the following characteristics:

5. Vertical Asymptotes of $x = 1, x = -2$.

6. Vertical Asymptote of $x = -1$,
Horizontal Asymptote of $y = 2$ and
x-intercept at $x = 3$.

7. Vertical Asymptotes of $x = 0, x = \frac{5}{2}$ and
Horizontal Asymptote of $y = 4$

8. Using the graph:



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

x	y

Hole: _____

V.A: _____

H.A.: _____

S.A.: _____

x-int(s): _____

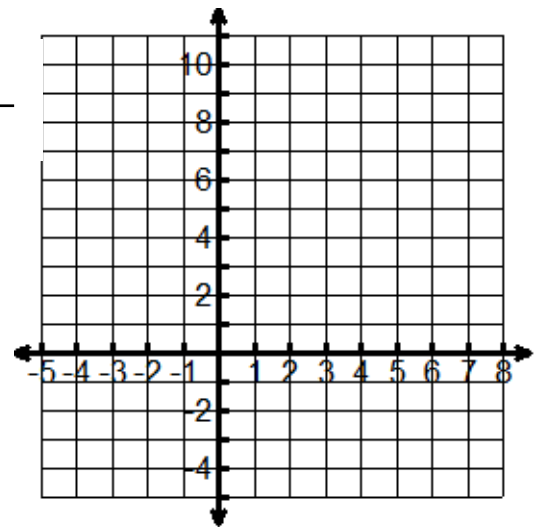
y-int: _____

Domain: _____

Range: _____

Inc: _____

Dec: _____



10. $f(x) = \frac{x^3 + 3x^2}{x^3 + 3x^2 - 4x - 12}$

x	y

Hole: _____

V.A: _____

H.A.: _____

S.A.: _____

x-int(s): _____

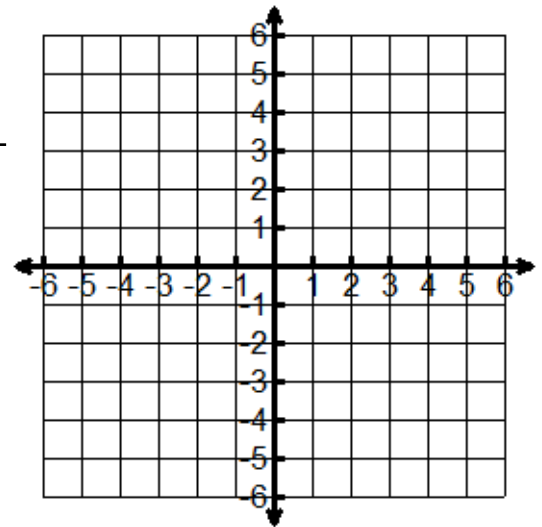
y-int: _____

Domain: _____

Range: _____

Inc: _____

Dec: _____



11. Determine all asymptotes & holes for

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

12. Determine all asymptotes & holes for

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

13. Write a rational equation with no Vertical Asymptote and a y-intercept of (0,5)

14. Write a rational equation with vertical asymptote of $x = 4$, a horizontal asymptote of $y = 3$ and a zero at $x = -2$.