

PreCalculus '13-14

Name: \_\_\_\_\_

Dr. Quattrin

Rational Functions Test-- CALCULATOR ALLOWED

Round to 3 decimal places.

Score \_\_\_\_\_

Show all work.

1. Find the Zeros, POEs, and VAs of  $y = \frac{2x^2 - 5x + 3}{2x^3 - 11x^2 - 5x + 12}$ . Show the supporting algebraic work.

2. Find the critical values and extreme values of  $y = \frac{2x^2 - 5x + 3}{2x^3 - 11x^2 - 5x + 12}$ . Show the derivative and algebra to support the critical values.

3.  $\frac{d}{dx} \left[ \frac{x^2 - 3x - 18}{9 - x^2} \right]$

4. Find the zeros, VAs, and POEs of  $y = \frac{x^3 + 4x^2 - 12x}{x^2 - 4x}$ . Show the supporting algebraic work.

5. Find the end behavior, critical values and extreme values of

$y = \frac{x^3 + 4x^2 - 12x}{x^2 - 4x}$ . Show the derivative and algebra to support the critical values.

6. Write an equation of a rational function that has  $x$ -intercepts at  $(2, 0)$ , VA at  $x = -1$ , a POE at  $x = -3$ , and a HA at  $y = \frac{1}{3}$ .

7. Find the traits and **sketch**  $y = \frac{2x^2 - 5x + 3}{2x^3 - 11x^2 - 5x + 12}$ .

Domain:

 $Y$  - Int:

Zeros:

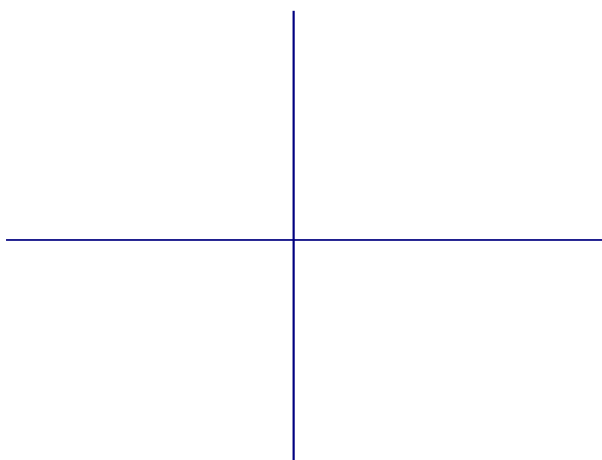
Range:

Vas:

End Behavior:

POEs:

Extreme Points:



8. Find the traits and **sketch** of  $y = \frac{x^3 + 4x^2 - 12x}{x^2 - 4x}$ .

Domain:

Y – Int:

Zeros:

Range:

Vas:

End Behavior:

POEs:

Extreme Points:

