

Desmos Asymptote Activity

I want you to find the equation to the horizontal and slant asymptotes by using Desmos to graph and compare the rational function to the equation to the asymptote as I showed in class.

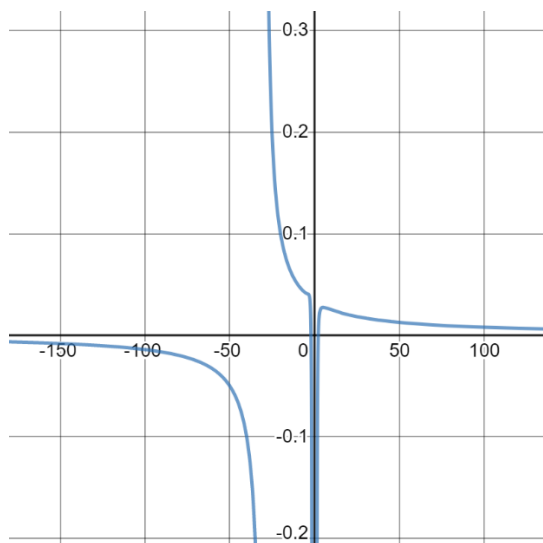
Go to:

desmos.com/calculator/rhnw0r4upz

Find the equation to the horizontal/slant asymptote and graph the asymptote along with the graph.

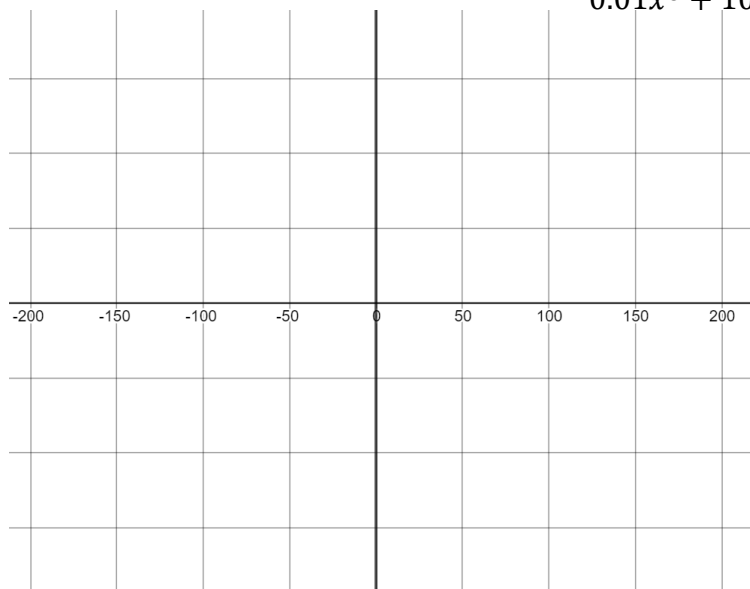
1.

$$\frac{x^6 - 5x^3 - 100}{x^7 + 30x^6}$$



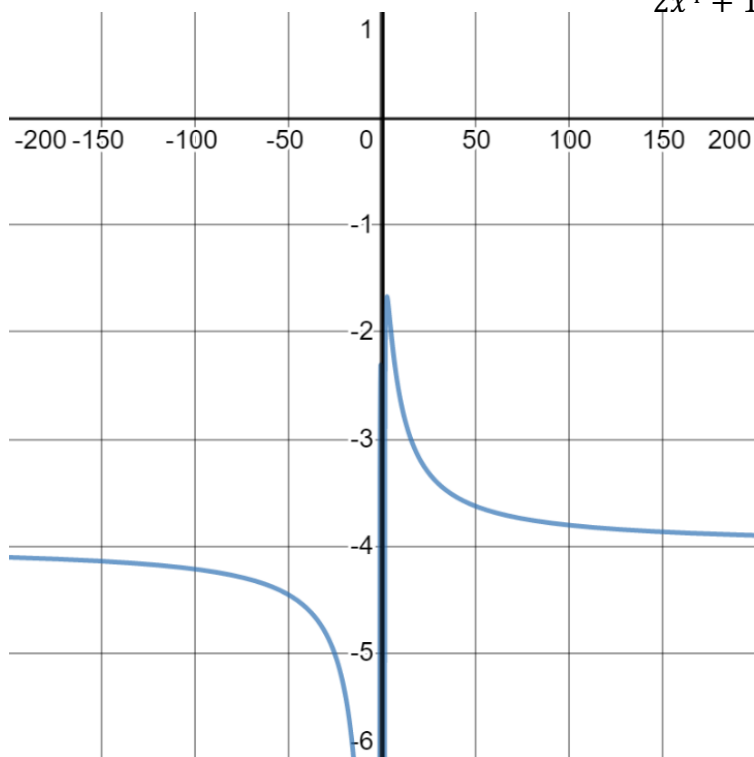
2.

$$\frac{-x^5 + 100x^3 - 200}{0.01x^8 + 100}$$



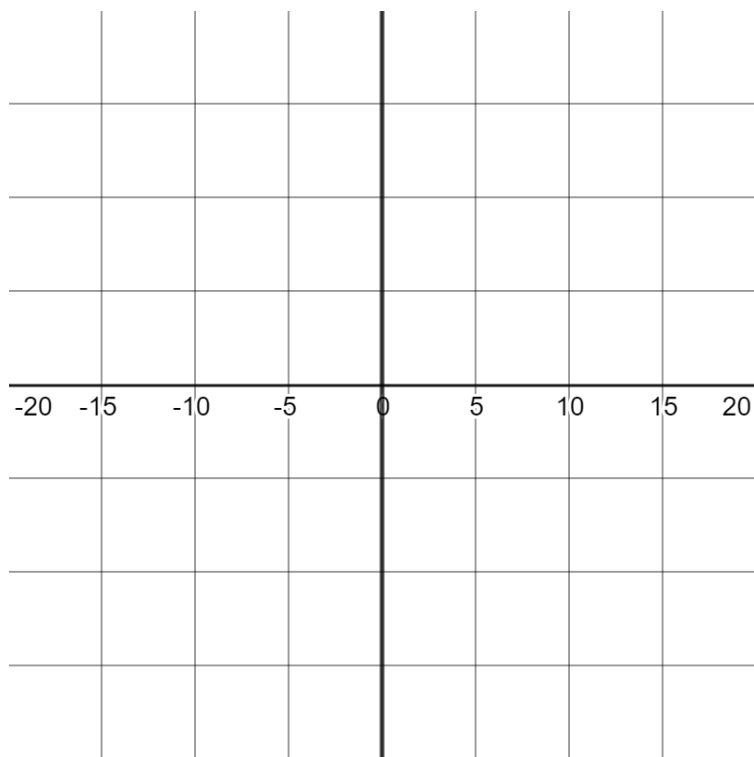
3.

$$\frac{-8x^4 + x^3 - 20}{2x^4 + 10x^3 - 18x}$$



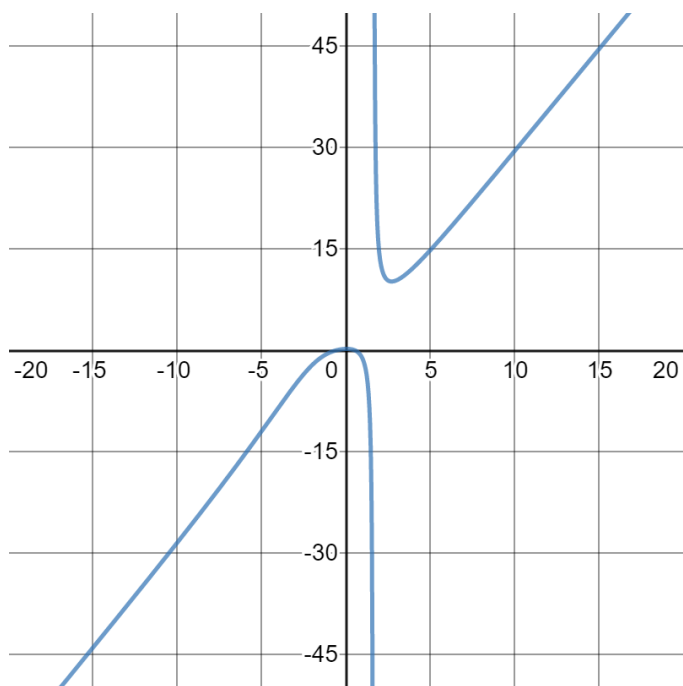
4.

$$\frac{20x^3 - 6x^2 + 15x}{4x^3 - 10x^2 + 1}$$



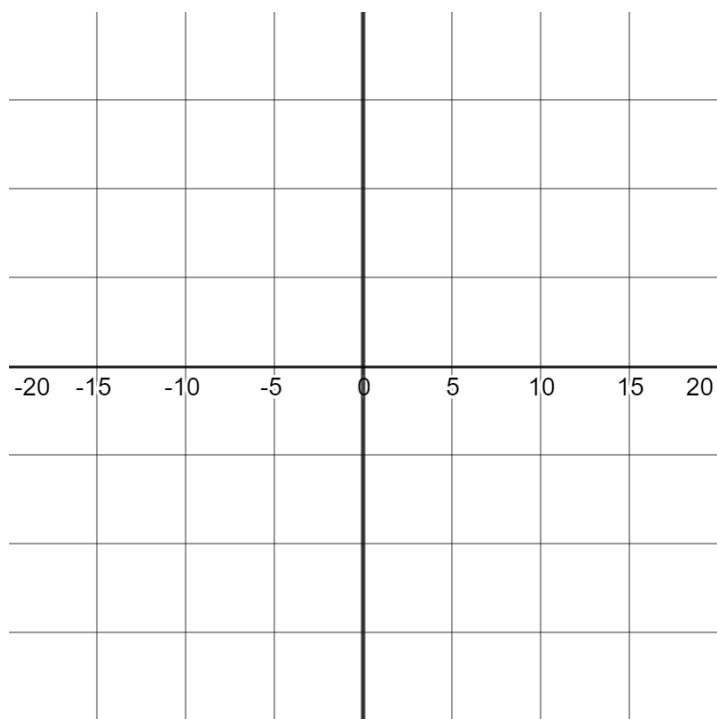
5.

$$\frac{3x^4 + 10x^2 - 3}{x^3 + 7x - 16}$$



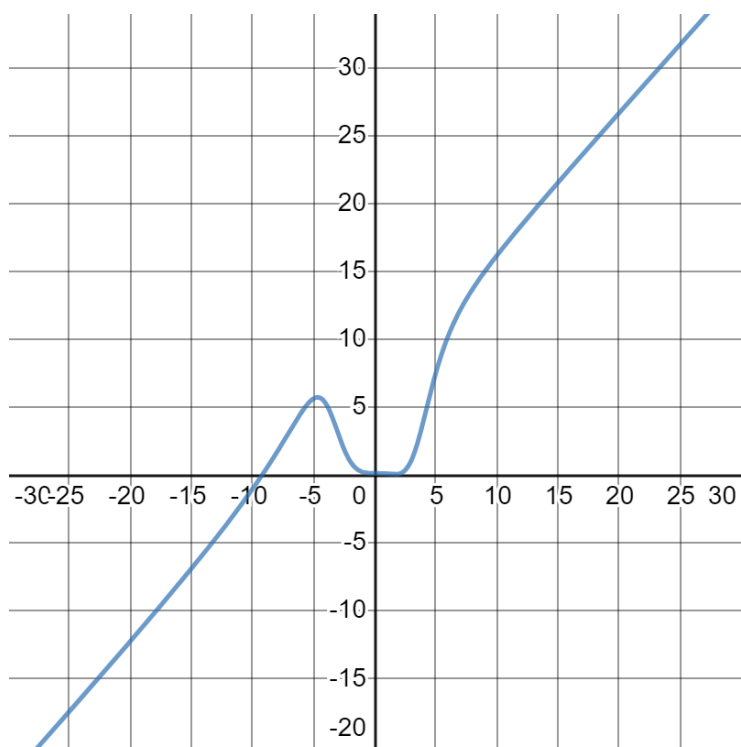
6.

$$\frac{-x^5 - 4x^3 + 20x}{2x^4 + 5x^2 - 10}$$



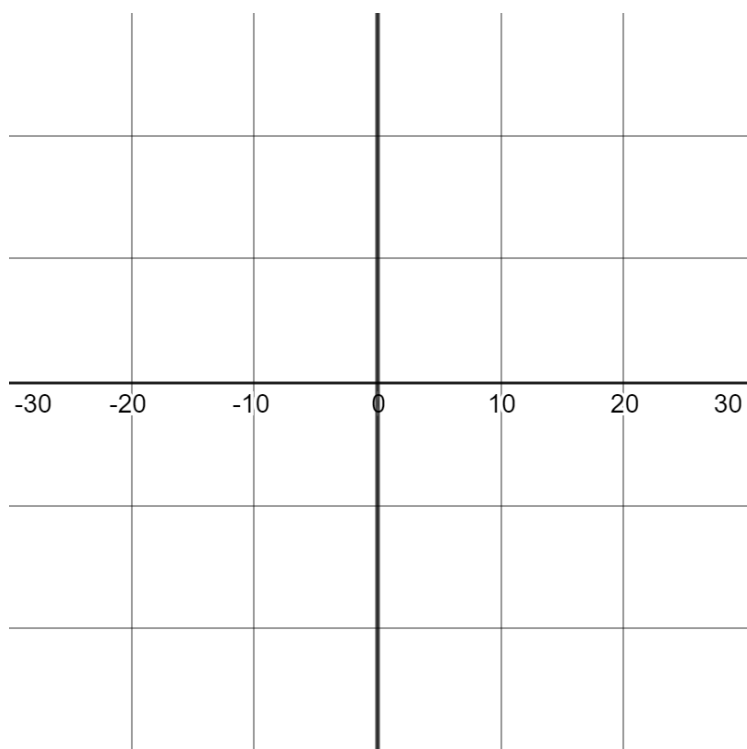
7.

$$\frac{x^5 + 7x^4 - 20x^3 + 30}{x^4 - 10x^2 + 300}$$



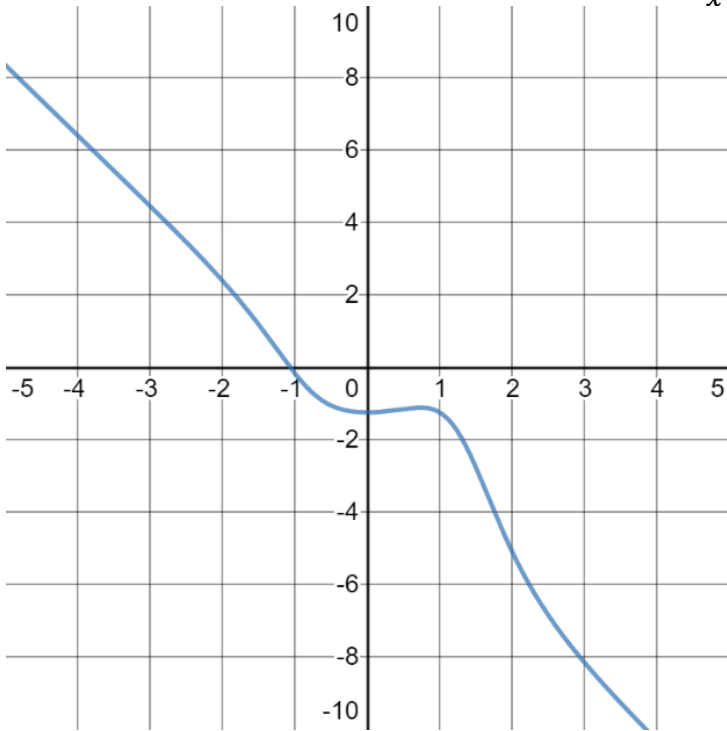
8.

$$\frac{2x^4 - 10x^3 + 30x^2 - 100}{x^3 + 29x}$$



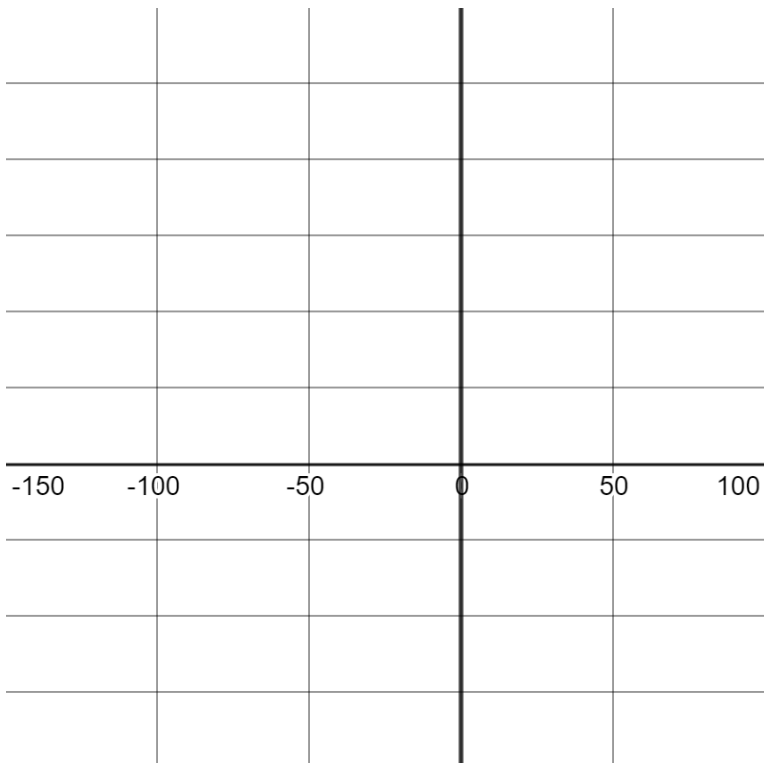
9.

$$\frac{2x^5 - 3x^2 + 5}{-x^4 + x^3 - 4}$$



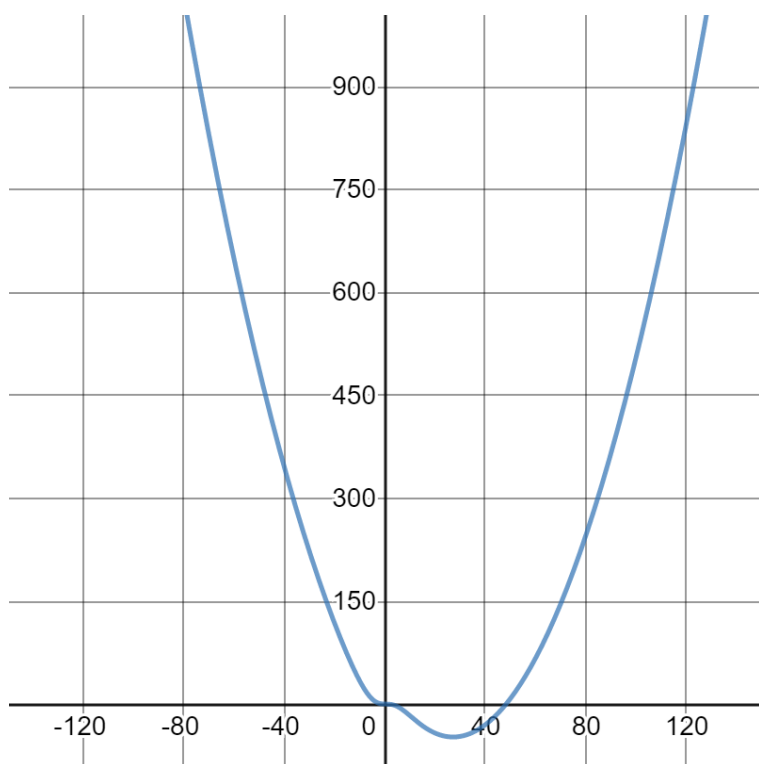
10.

$$\frac{-x^3 + 3x - 10}{3x^2 + 18x - 20}$$



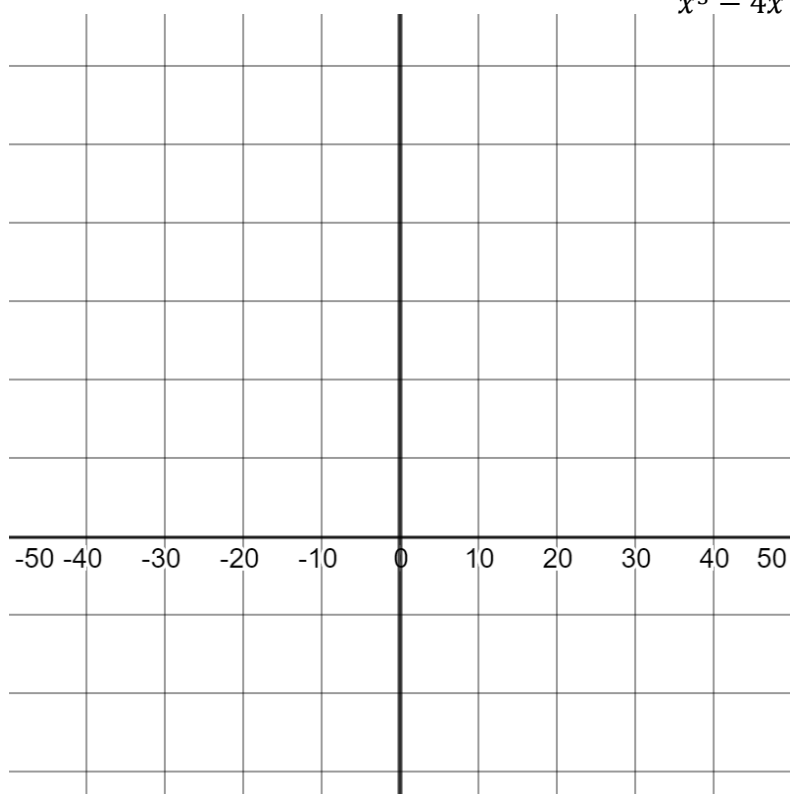
11.

$$\frac{0.1x^4 - 5x^3 + 8x^2 - 10x + 20}{x^2 + 100}$$



12.

$$\frac{(x^5 - 2x^4 + 5x^3 - 43x^2 + 30)}{x^3 - 4x + 100}$$



In general, what strategies are you using and what patterns are you noticing? Be as specific as possible.