

1. Find all points of discontinuity and state if they are holes or vertical asymptotes.

$$\frac{x^2 - 4}{2x^3 - 6x^2 - 20x}$$

2. Find the equation of the Horizontal Asymptote, if any.

a. $y = \frac{6x^3 - x^2 + 9}{2x^2 - 12}$ b. $y = \frac{7x^2 + 10x - 4}{x^2 + 5x + 2}$

c. $y = \frac{8x + 15}{2x^2 - 5}$

3. Simplify. State restrictions on the variable.

$$\frac{x^2 + x - 12}{4x^4 - 36x^2} \div \frac{x^2 + 10x + 24}{6x^2 + 18x}$$