

Graphing Rational Functions

5.4 - Homework

Name _____

Date _____

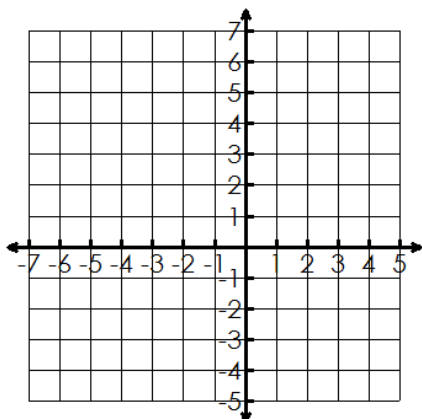
1. $f(x) = \frac{x^2 + 10x + 21}{x + 3}$

VA: _____ HA: _____ Slant: _____

x-int: _____ y-int: _____ Holes: _____

Domain: _____ Range: _____

inc: _____ dec: _____



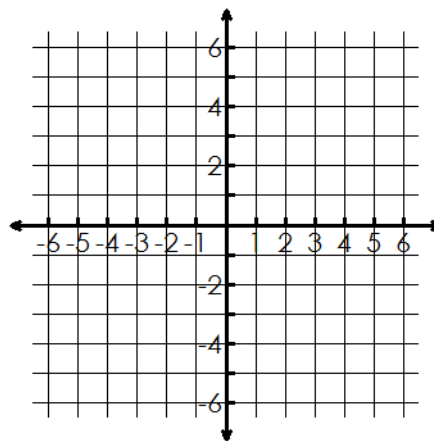
2. $f(x) = \frac{x - 1}{x^2 + 3x - 4}$

VA: _____ HA: _____ Slant: _____

x-int: _____ y-int: _____ Holes: _____

Domain: _____ Range: _____

inc: _____ dec: _____



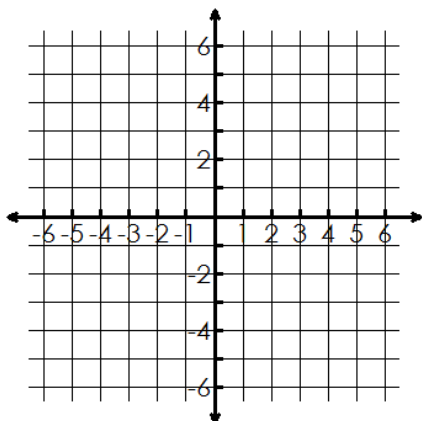
3. $f(x) = \frac{x^2 + 4x - 5}{x + 2}$

VA: _____ HA: _____ Slant: _____

x-int: _____ y-int: _____ Holes: _____

Domain: _____ Range: _____

inc: _____ dec: _____



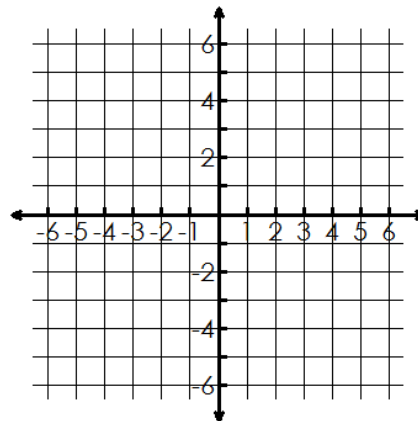
4. $f(x) = \frac{3x^2 + 5x - 12}{x^2 + x - 6}$

VA: _____ HA: _____ Slant: _____

x-int: _____ y-int: _____ Holes: _____

Domain: _____ Range: _____

inc: _____ dec: _____



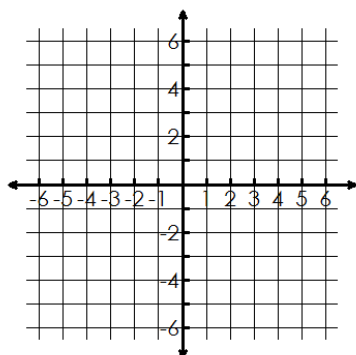
5. $f(x) = \frac{2x^2 - 18}{x^2 - 4}$

VA: _____ HA: _____ Slant: _____

x-int: _____ y-int: _____ Holes: _____

Domain: _____ Range: _____

inc: _____ dec: _____



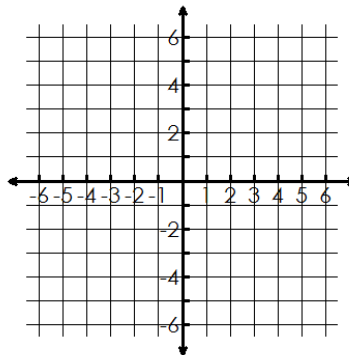
6. $f(x) = \frac{x^2 - x - 2}{x - 1}$

VA: _____ HA: _____ Slant: _____

x-int: _____ y-int: _____ Holes: _____

Domain: _____ Range: _____

inc: _____ dec: _____



7. Determine all asymptotes & holes for

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

8. Determine all asymptotes & holes for

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

9. Write a rational equation with vertical asymptotes of $x = 1$, $x = \frac{-1}{3}$ and horizontal asymptote of $y = 5$.

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

11. Find all information for the graph.

Domain: _____ Range: _____

VA: _____ HA: _____

x-int: _____ y-int: _____

inc: _____ dec: _____

holes: _____ slant: _____

