



9. Write a rational function that has a Vertical Asymptote at  $x = -3$  and Horizontal Asymptote at  $y = 4$ .

10. Write a rational function that has Vertical Asymptotes at  $x = 1$  and  $x = 2$  and a Horizontal Asymptote at  $y = 2$ .

11. Find all the Asymptotes of  $g(x) = \frac{x^2 + 4x - 5}{x + 1}$       VA: \_\_\_\_\_

HA: \_\_\_\_\_

Slant: \_\_\_\_\_

12. Did #11 have any holes?  
 If so, where is the hole?

13. Find all the Asymptotes of  $h(x) = \frac{2x^2 + 4x}{x^2 + 5x + 6}$       VA: \_\_\_\_\_

HA: \_\_\_\_\_

Slant: \_\_\_\_\_

14. Did #13 have any holes?  
 If so, where is the hole?

15. What is the x-intercept and y-intercept for  $h(x) = \frac{2x - 9}{(x + 3)(x - 1)}$

x-int: \_\_\_\_\_

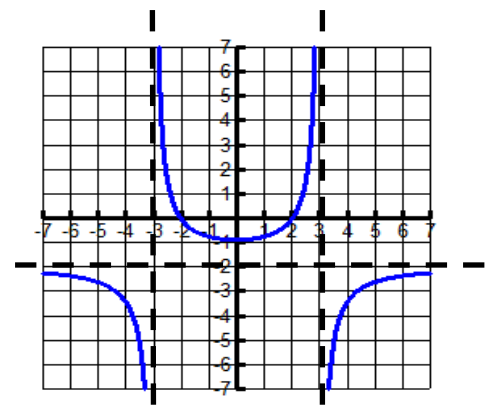
y-int: \_\_\_\_\_

16. Find **horizontal** and **vertical** asymptotes of the rational function,

**Domain, range,**

HA: \_\_\_\_\_      VA: \_\_\_\_\_

Domain: \_\_\_\_\_      Range: \_\_\_\_\_



17. Given  $g(x) = \frac{x^2 - 9}{3x^2 + 9x}$ , A. explain what is occurring at  $x = -3$ ?    B. W

a. \_\_\_\_\_

b. \_\_\_\_\_