

Name: _____

Date: _____



Homework: Rational Graphs – NO CALCULATOR

****This entire homework assignment should be done without a calculator!**

#1 – 3. Find the vertical asymptotes & holes of each function. Then find any horizontal asymptotes.

1. $y = \frac{(x-3)}{(x+4)(x-3)}$

2. $y = \frac{2}{x-6}$

3. $y = \frac{x^2-1}{x^2-4}$

#4 – 6. Find the vertical asymptotes, horizontal asymptotes, and holes for each function. Then sketch a graph of the function.

4. $y = \frac{(x+2)(x-1)}{x-1}$

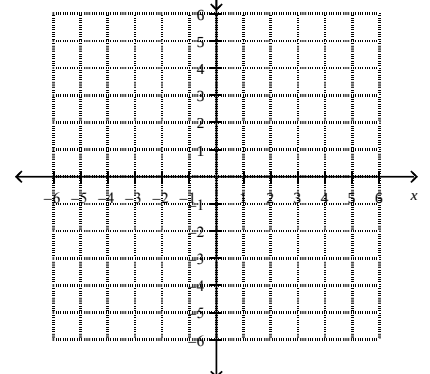
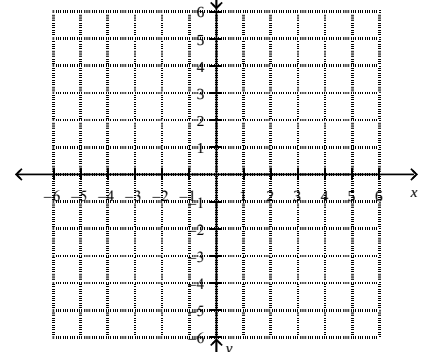
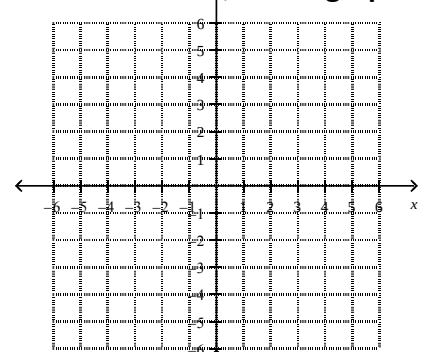
V.A. _____ hole(s) _____ H.A. _____

5. $y = \frac{2x+2}{x^2+2x+1}$

V.A. _____ hole(s) _____ H.A. _____

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

V.A. _____ hole(s) _____ H.A. _____



#7 – 10. Find the vertical asymptotes, horizontal asymptotes, and holes for each function. Then match the function with its graph.

_____ 7. $y = \frac{x^2+x-6}{x^2+7x+12}$

_____ 8. $y = \frac{x+1}{x^2+3x-4}$

V.A. _____ hole(s) _____ H.A. _____

V.A. _____ hole(s) _____ H.A. _____

_____ 9. $y = \frac{x^2-3x-10}{x^2-9x+20}$

_____ 10. $y = \frac{x^2+1}{x^2-3x-4}$

V.A. _____ hole(s) _____ H.A. _____

V.A. _____ hole(s) _____ H.A. _____

