Algebra 2 Name _____

Worksheet #1 Lesson 5.4

Block _____ Date _____

Identify the vertical asymptote, horizontal asymptote, domain, and range of each function. (example #1)

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

VA: _____

HA: _____

D: _____

R: _____

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

VA: _____

HA: _____

D: _____

R: _____

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

VA: _____

HA: _____

D: _____

R: _____

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

VA: _____

HA: _____

D: _____

R: _____

5) $f(x) = \frac{2}{x+2} + 3$

VA: _____

HA: _____

D: _____

R: _____

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

VA: _____

HA: _____

D: _____

R: _____

Identify the zeros, holes, vertical asymptotes, and horizontal asymptote of each function. (examples #2 – 4)

7) $f(x) = \frac{x^2-9}{x^2+3x}$

Zeros: _____

VA: _____

HA: _____

Holes: _____

8) $f(x) = \frac{x+1}{x-3}$

Zeros: _____

VA: _____

HA: _____

Holes: _____

8) $f(x) = \frac{x^2-1}{-4x-16}$

Zeros: _____

VA: _____

HA: _____

Holes: _____

10) $f(x) = \frac{x^2+x-12}{x^2-7x+12}$

Zeros: _____

VA: _____

HA: _____

Holes: _____

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

Zeros: _____

VA: _____

HA: _____

Holes: _____

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

Zeros: _____

VA: _____

HA: _____

Holes: _____