Name Key Date _____ Pd ___

7.2 Graphing Rational Functions DAY TWO CYU

☑ Use when you get it right all by yourself

S Use when you did it all by yourself, but made a silly mistake

H Use when you could do it alone with a little help from teacher or peer

G Use when you completed the problem in a group

X Use when a question was attempted but wrong (get help)

N Use when a question was not even attempted

CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Graphing rational functions		7, 8	3, 4
Understanding transformations		1 - 8	
Vertical asymptote		5 - 8	1 - 4
Horizontal asymptote		5 - 8	1 - 4
Domain & range in interval notation		5 - 8	
Holes	3	4	
Factoring quadratics	3	1, 4	
x-intercepts	1	2	

I.

Identify the holes, vertical asymptotes, x-intercepts, and horizontal asymptote of each.

1. $f(x) = \frac{1}{3x^2+3x-18}$

Holes: none

VA: $x = -3, x = 2$

x-intercepts: none

HA: $y = 0$

2. $g(x) = \frac{x-2}{x-4}$

Holes: none

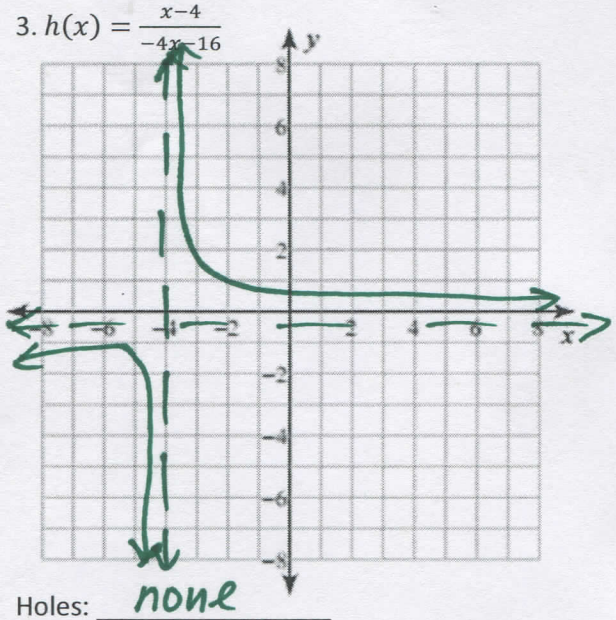
VA: $x = 4$

x-intercepts: $(2, 0)$

HA: $y = 1$

II. Identify the holes, vertical asymptotes, and horizontal asymptote. Then sketch the graph.

3. $h(x) = \frac{x-4}{-4x-16}$



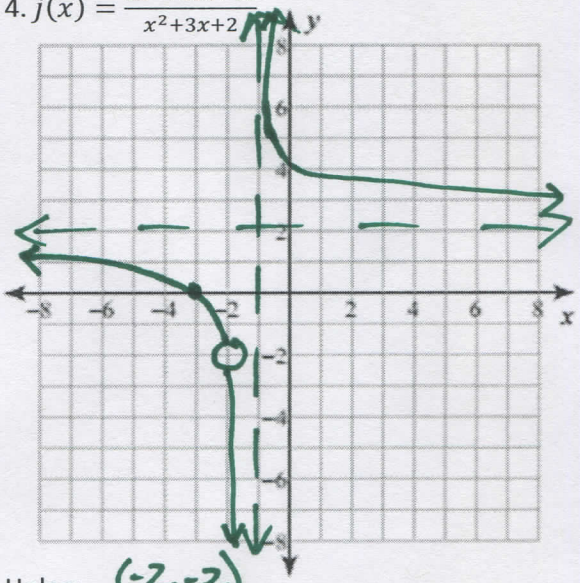
Holes: none

VA: $x = -4$

x-intercepts: $(4, 0)$

HA: $y = -\frac{1}{4}$

4. $j(x) = \frac{2x^2+10x+12}{x^2+3x+2}$



Holes: $(-2, -2)$

VA: $x = -1$

x-intercepts: $(-3, 0)$

HA: $y = 2$

III. Identify the vertical asymptotes, horizontal asymptotes, domain and range of each in interval notation.

5. $k(x) = \frac{4}{x-1} + 1$

VA: $x=1$

HA: $y=1$

Domain: $(-\infty,1)\cup(1,\infty)$

Range: $(-\infty,1)\cup(1,\infty)$

6. $f(x) = -\frac{3}{x-1} - 1$

VA: $x=1$

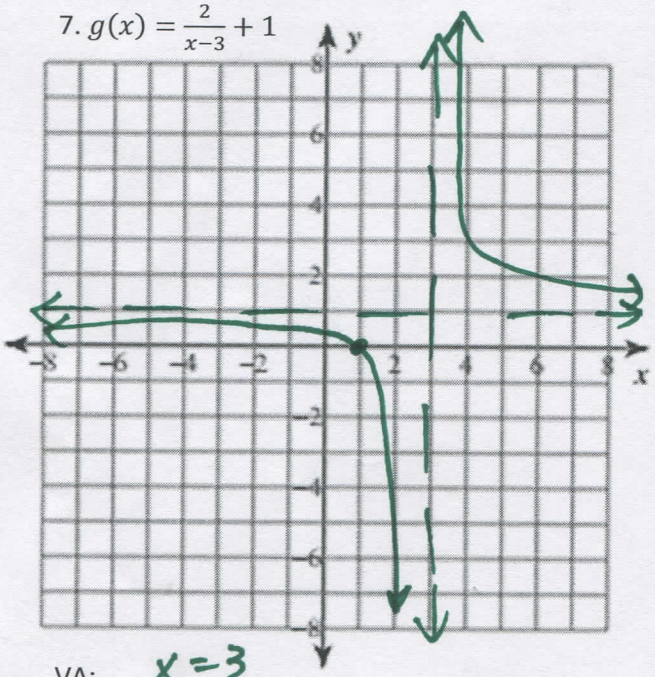
HA: $y=-1$

Domain: $(-\infty,1)\cup(1,\infty)$

Range: $(-\infty,-1)\cup(-1,\infty)$

IV. Identify the vertical asymptotes, horizontal asymptote, domain and range of each. Then sketch the graph.

7. $g(x) = \frac{2}{x-3} + 1$



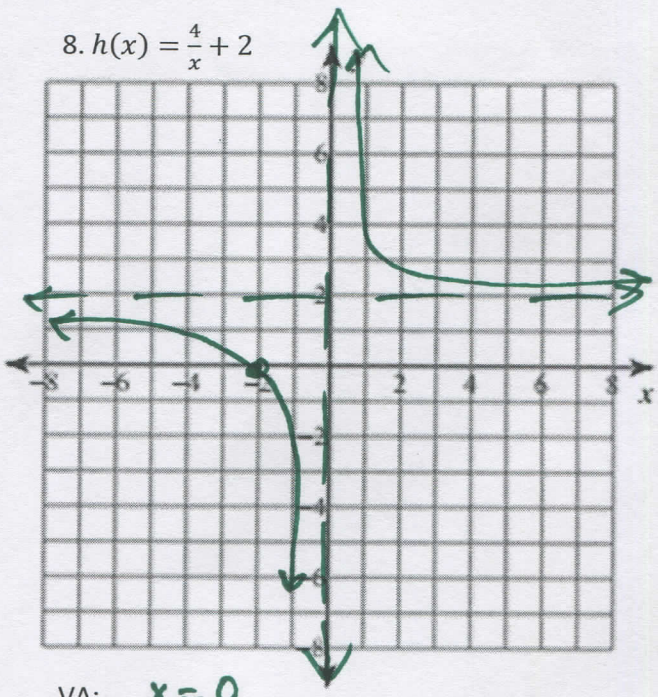
VA: $x=3$

HA: $y=1$

Domain: $(-\infty,3)\cup(3,\infty)$

Range: $(-\infty,1)\cup(1,\infty)$

8. $h(x) = \frac{4}{x} + 2$



VA: $x=0$

HA: $y=2$

Domain: $(-\infty,0)\cup(0,\infty)$

Range: $(-\infty,2)\cup(2,\infty)$

CYU Reflection: *How far can you go: basic, intermediate, or advanced?*

Rate your mastery level!

How confident are you with the skills this CYU covered? Circle the score you would give yourself.