

Sec 3.5

Graphing Rational Functions

We will use-

- vertical asymptotes
- horizontal asymptotes
- holes
- y-intercepts
- x-intercepts
- test points
- graphing calculator
- sketch

Sketch-

$$g(x) = \frac{1x^0}{(x-1)} = \frac{1}{0-1}$$

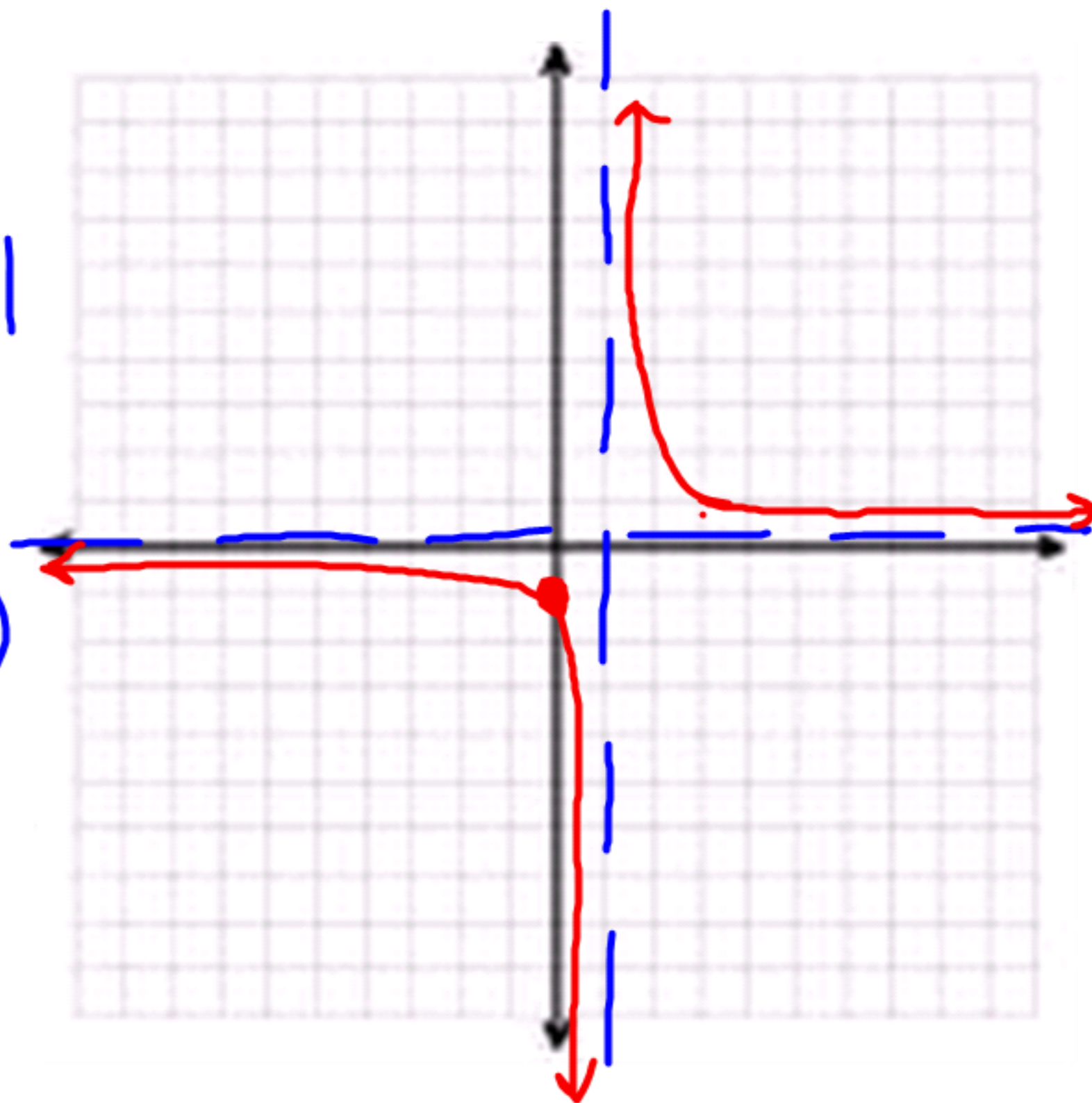
VA @ $x=1$

HA @ $y=0$

y-intercept-
other point-

$(0, -1)$

x	y
3	1/2
5	1/4



Sketch-

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

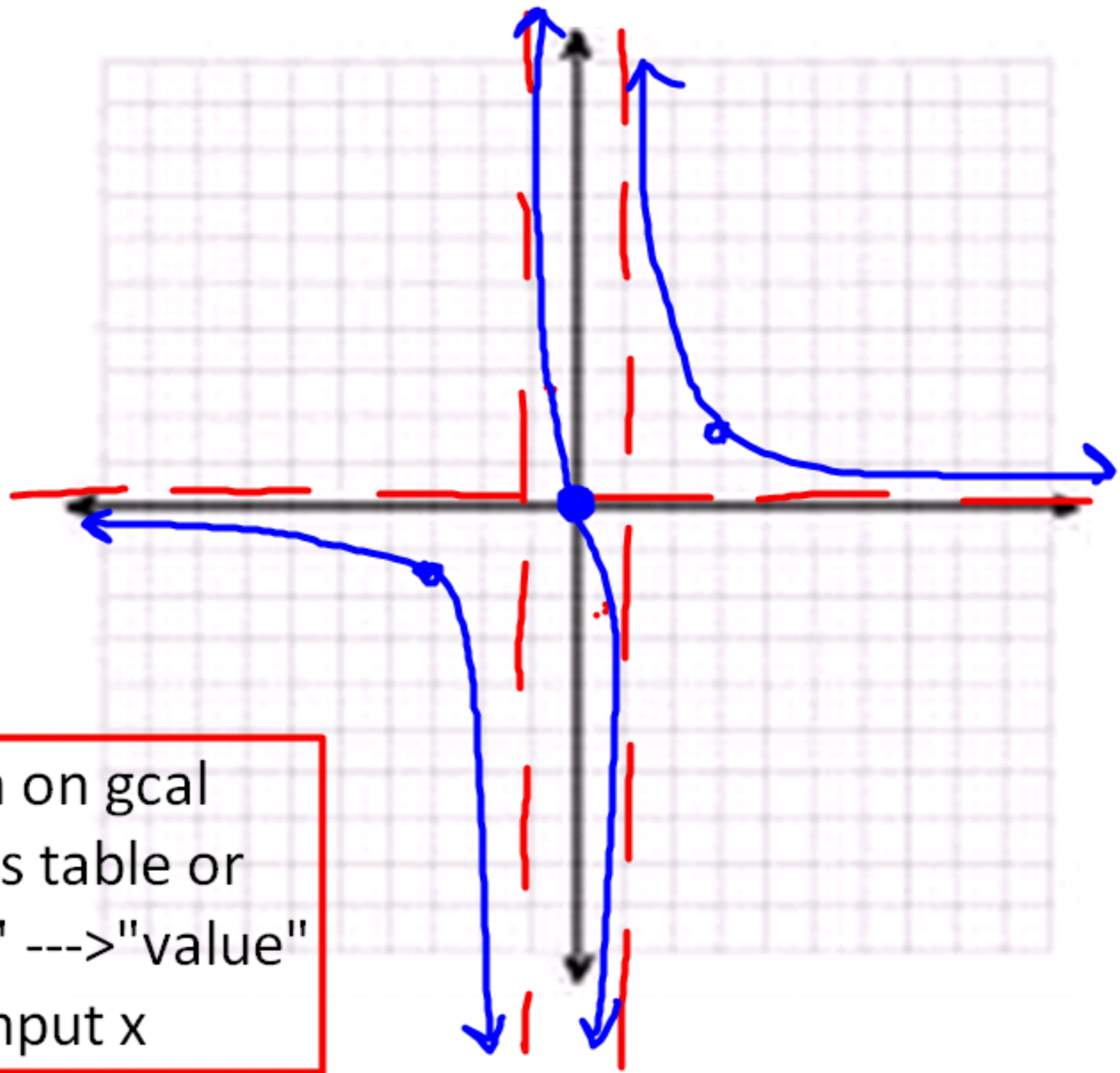
VA @ $x = \pm 1$

HA @ $y = 0$

points-

x	y
-3	-1.5
$-\frac{1}{2}$	2.6
$\frac{1}{2}$	-2.6
3	1.5

graph on gcal
access table or
"calc" ---> "value"
and input x



Suggested Practice

Sec 3.5

Graph

51,59,63,65,69,75

Show work, by hand, for all asymptotes and intercepts. Find test points for each "piece" either by hand or gcal table. Check your graph via gcal.

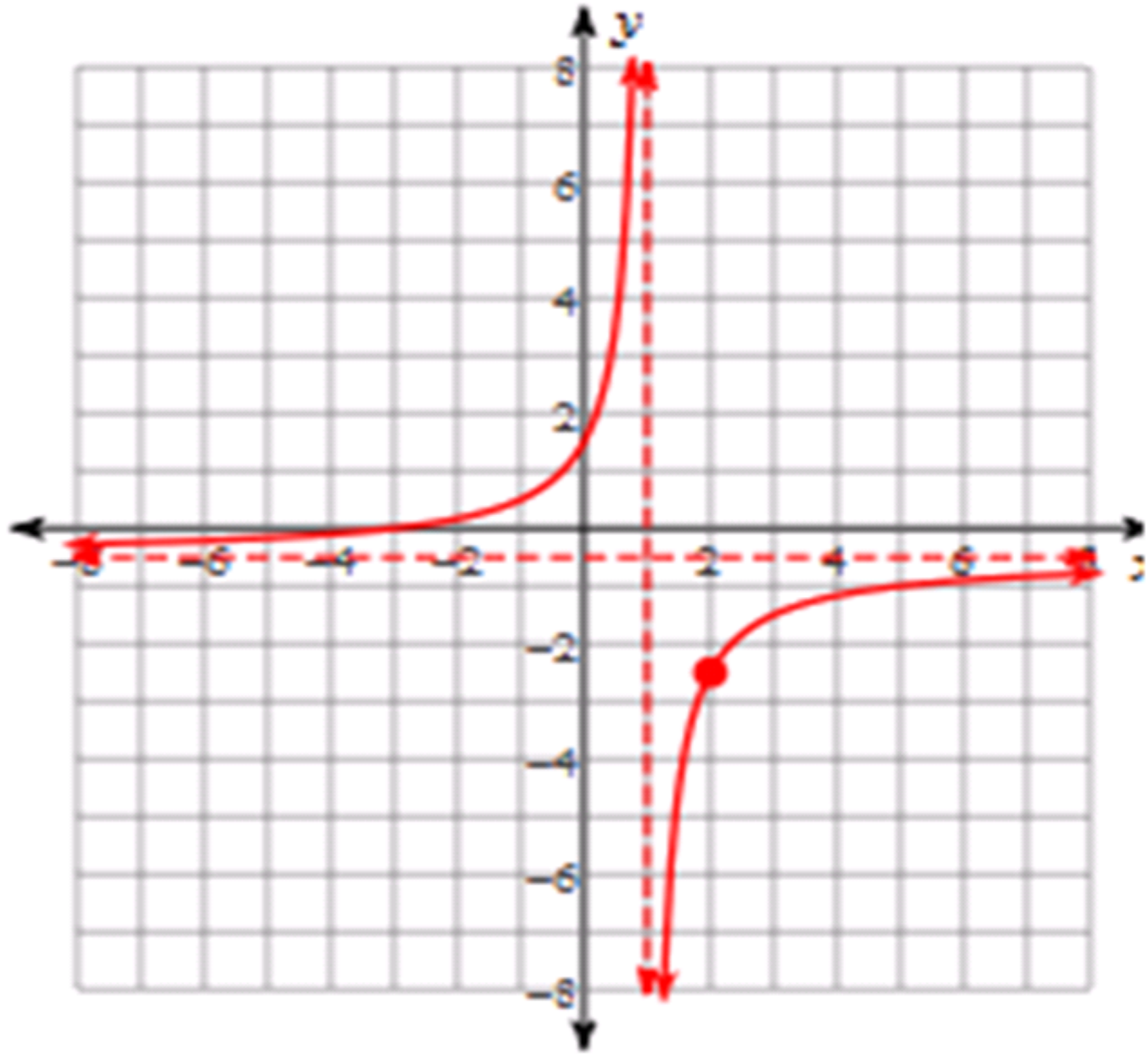
Take photo of solutions (page AA29- marked with post it).

recapping content from Friday...
asymptotic Behavior Descriptions

and

asymptotes vs. holes

Describe-



$$\frac{2x + 4}{x^2 + 5}$$

$$\frac{x^2 + 6x + 8}{(x + 4)(x + 5)}$$

$$\frac{x^2 + 6x + 8}{(x + 3)(x + 5)}$$

$$\frac{8x^3}{x - 1}$$