

Homework 1a Solutions

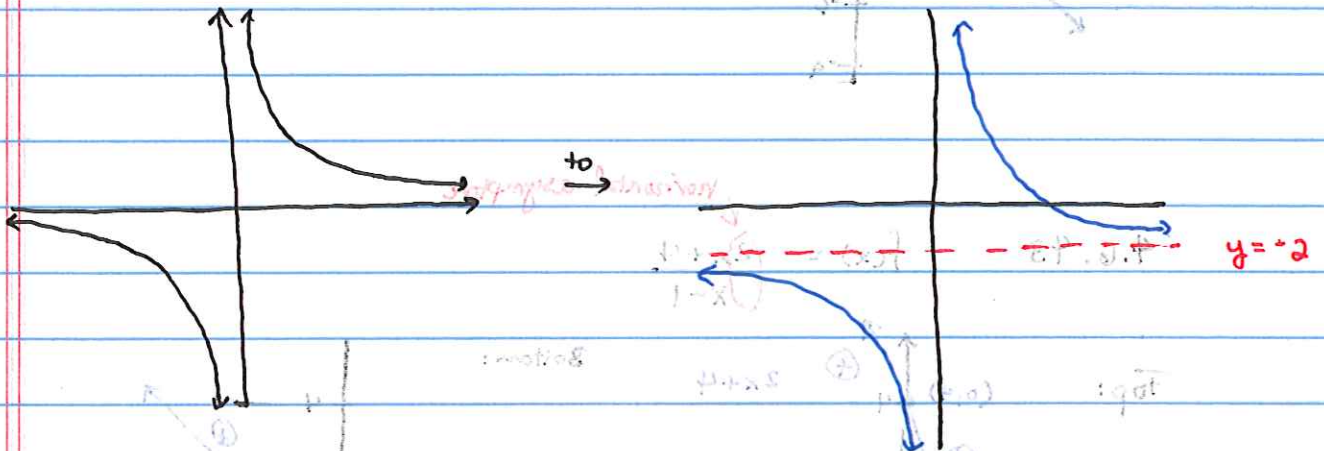
88.014

$8+x$ and $8-x = (8+x)(8-x)$ $8-x = 0 \Rightarrow x=8$

For this homework, we want to remember the following

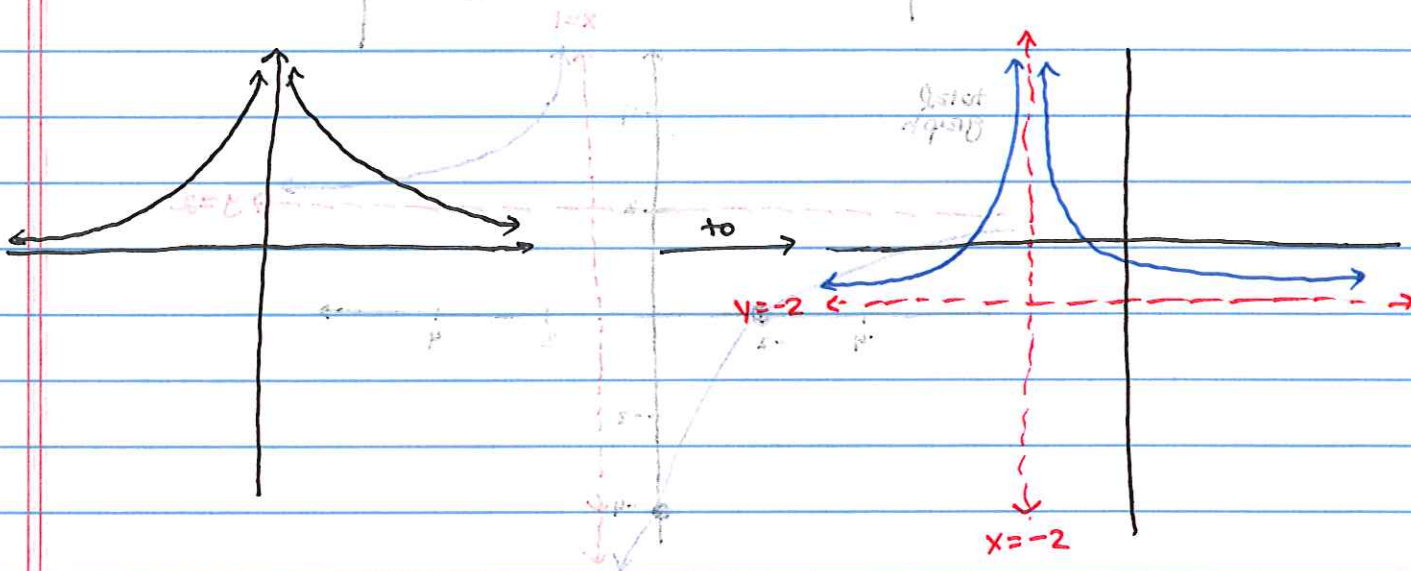
Inside: Left Outside: Up	+	Right Down
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4.6.21 $f(x) = \frac{1}{x} - 2$ -2 outside means 2 down.



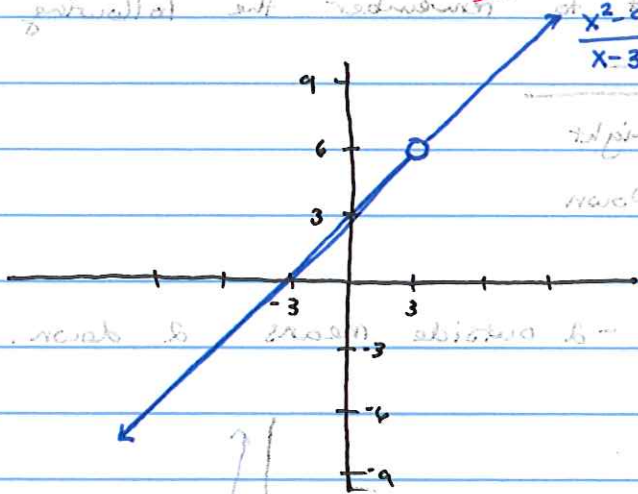
4.6.26 $f(x) = \frac{1}{(x+3)^2} - 2$

-2 outside and +3 inside means 2 down and 3 left.



4.6.35

$$f(x) = \frac{x^2 - 9}{x - 3} = \frac{(x+3)(x-3)}{(x-3)} = x+3 \quad \text{but } x \neq 3$$

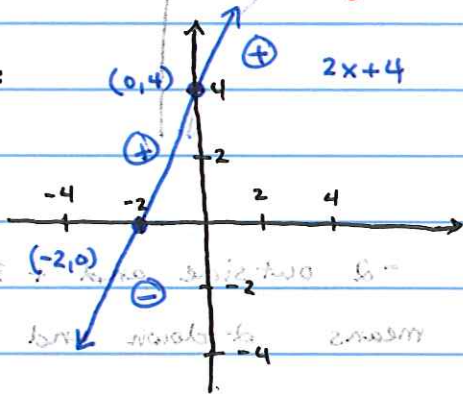


There is a removable discontinuity at $x=3$

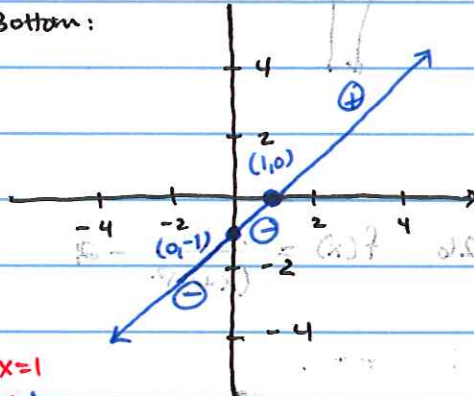
4.6.43

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

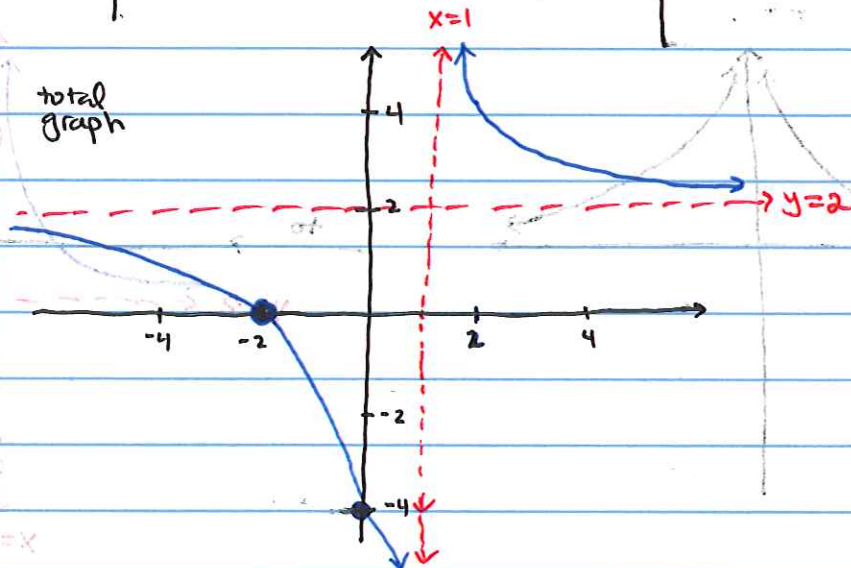
Top:



Bottom:



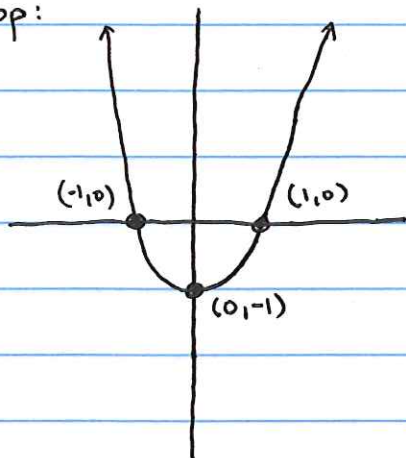
total graph



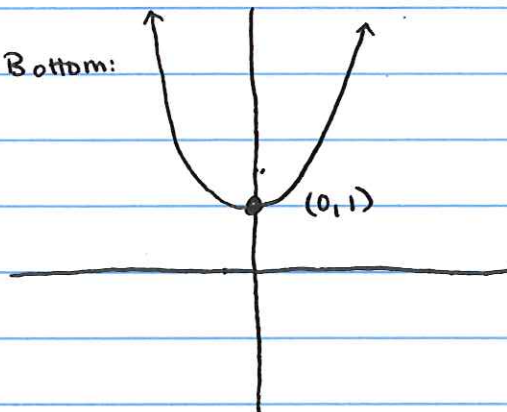
4.6.45

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

Top:



Bottom:



total graph:

