

Math 27, HW #13 Selected Problems

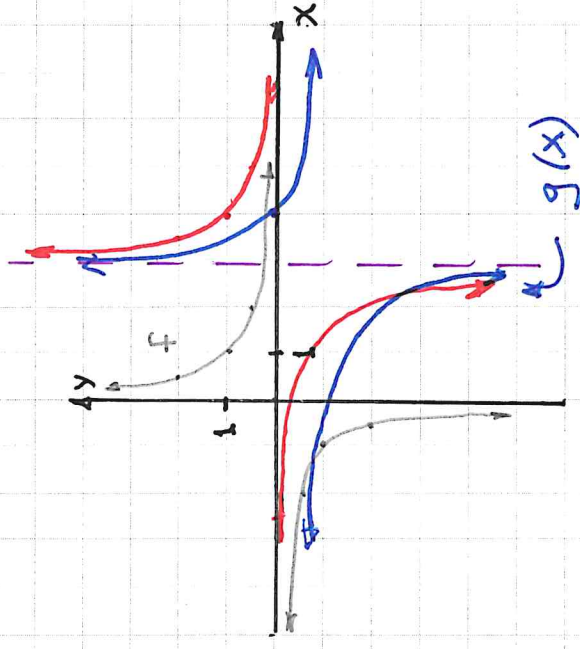
Pg. 157, #7 $f(x) = \frac{1}{x}$, $g(x) = \frac{1}{x-3} - 1$

To transform f into g :

① HS 3 \rightarrow

② VS 1 \downarrow

$$g(x) = f(x-3) - 1$$



Pg. 157, #25 $g(x) = \frac{4(x+1)}{x(x-4)}$.

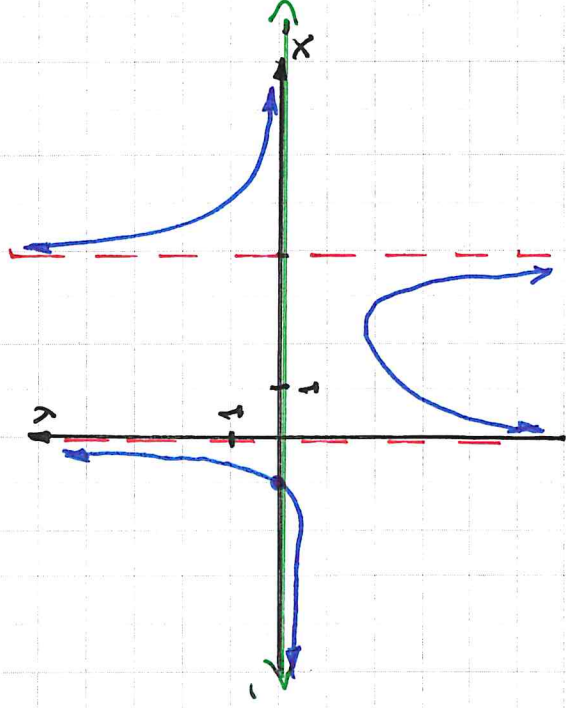
y-intercept, ($x=0$): $y = \frac{4}{0}$ Undefined

x-intercept, solve: $0 = \frac{4(x+1)}{x(x-4)}$

$$\Rightarrow 4(x+1) = 0 \Rightarrow x = -1$$

VA: Solve $x(x-4) = 0 \Rightarrow x = 0$ or $x = 4$

HA: $n=1$, $m=2$ $n < m \Rightarrow y=0$



Pg. 158, #56 $f(x) = \frac{2x^2 - 5x + 5}{x-2}$

Note: $2x^2 - 5x + 5$ DOES NOT FACTOR

y-intercept: $(x=0) f(0) = -5/2 = (5/-2)$

x-intercept, solve: $0 = 2x^2 - 5x + 5$

No real solution

VA: $x=2$

$$\frac{2x-1}{2x^2-5x+5} + \frac{x-2}{x-2}$$

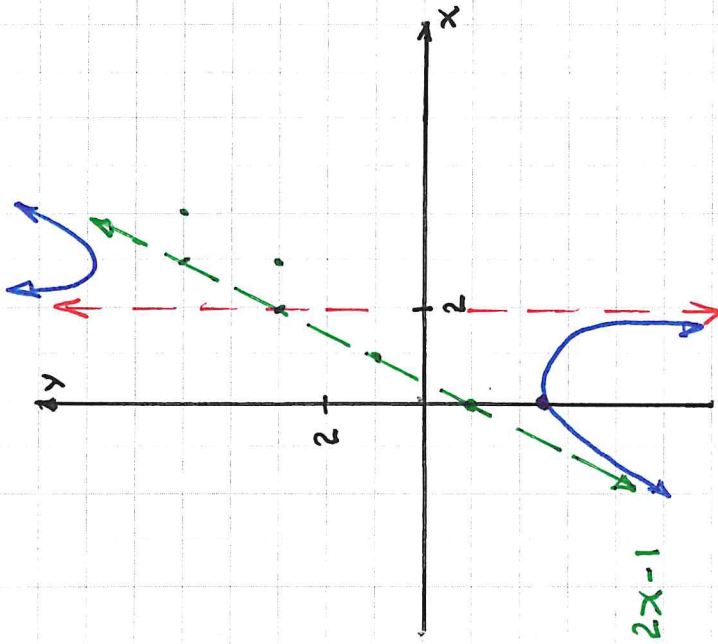
SA: $(n=m+1)$

$$\frac{2x-1}{2x^2-5x+5} - \frac{2x^2-4x}{2x^2-4x}$$

$y = 2x - 1$

$$\frac{0 - x + 5}{-(-x + 2)}$$

0 (3) ← Remainder



Pg. 158, #65 $f(x) = \frac{x^2 - 5x + 4}{x^2 - 4} = \frac{(x-1)(x-4)}{(x+2)(x-2)}$

VA: Solve $x^2 - 4 = 0 \Rightarrow \boxed{x = -2}$ or $\boxed{x = 2}$

HA: $n=2, m=2$ ($n=m$) $\Rightarrow \boxed{y = 1}$

~~HA:~~ No SAs.
No Holes,