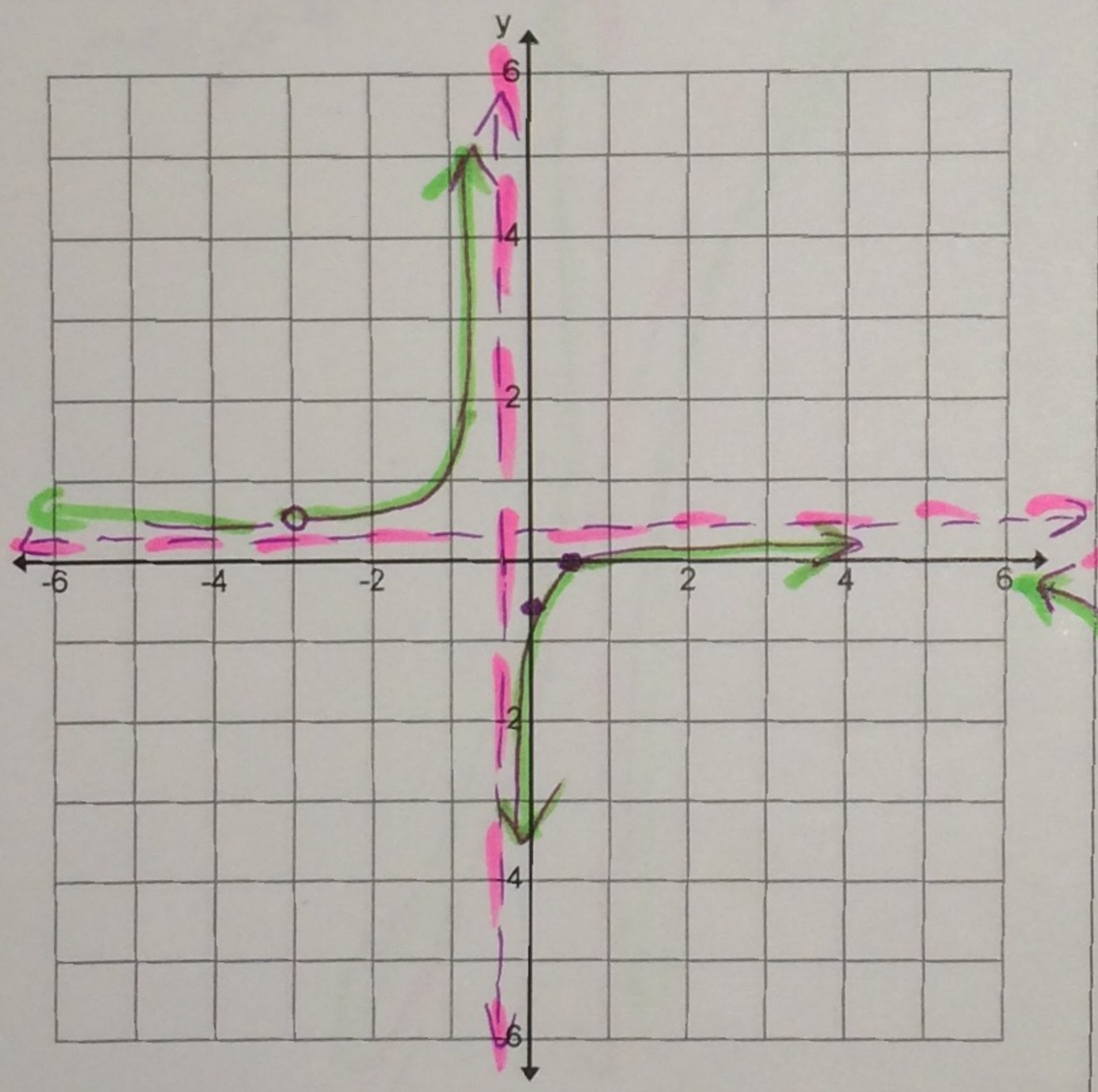
1. $f(x)=\dfrac{2x^2+5x-3}{5x^2+17x+6}=\dfrac{(x+3)(2x-1)}{(x+3)(5x+2)}$

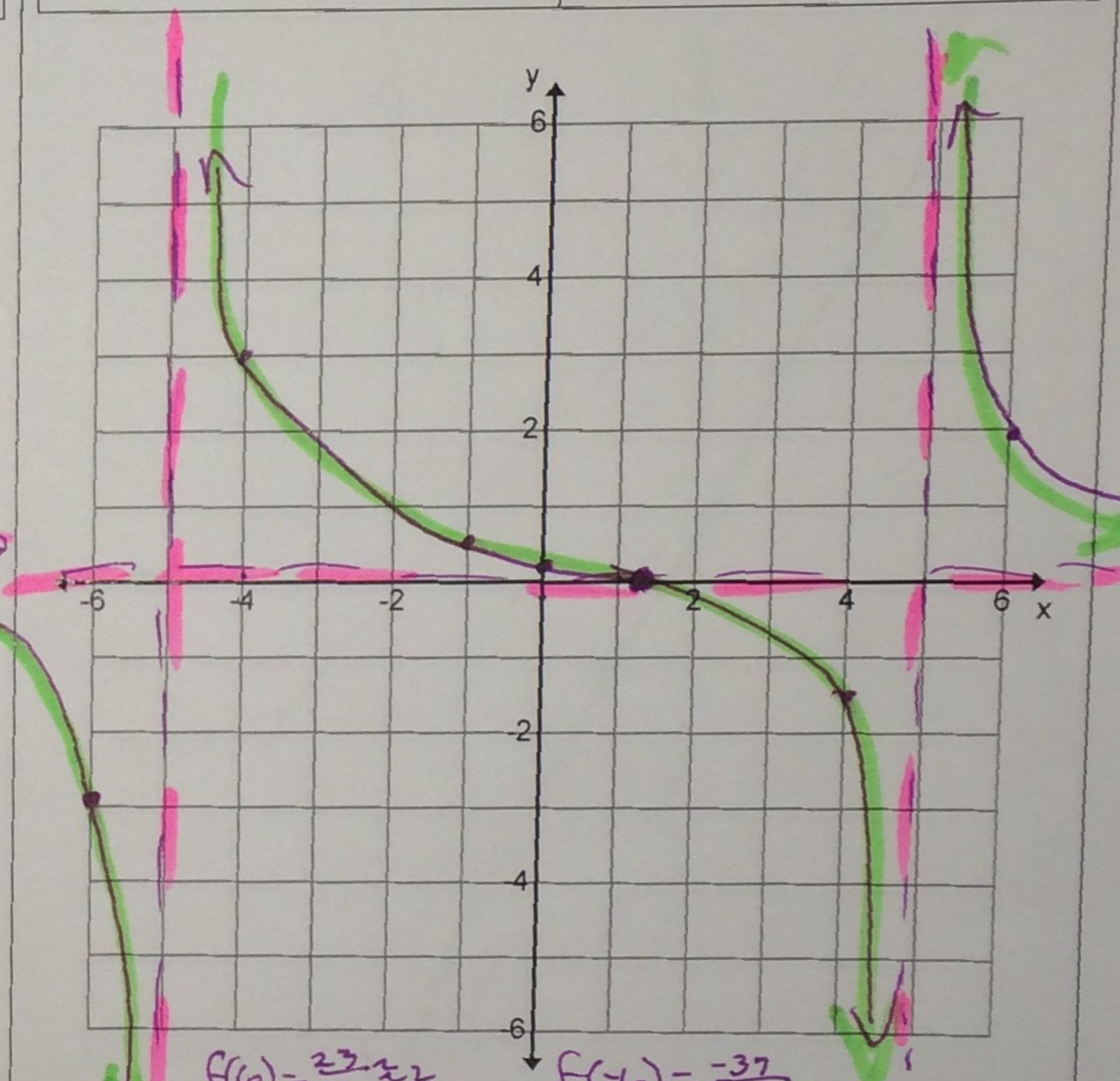
$\dfrac{-6}{\frac{6}{2}=\frac{1}{2}}$ $\dfrac{30}{\frac{215}{5}}$

Hole: $(-3,\frac{7}{13})$ $\frac{2(-3)+1}{5(-3)+2}=\frac{-7}{-13}$	VA: $x=\frac{-2}{5}$	HA: $y=\frac{2}{5}$
SA: NO	x-int: $\frac{1}{2}$	y-int: $-\frac{1}{2}$
Domain: TR $x\neq\frac{-2}{5}$	Range: TR $y\neq\frac{2}{5}$	



2. $f(x)=\dfrac{5x-7}{x^2-25}=\dfrac{5x-7}{(x+5)(x-5)}$

Hole: NO	VA: $x=-5$ $x=5$	HA: $y=0$
SA: NO	x-int: $\frac{7}{5}$	y-int: $\frac{7}{25}$
Domain:	Range:	

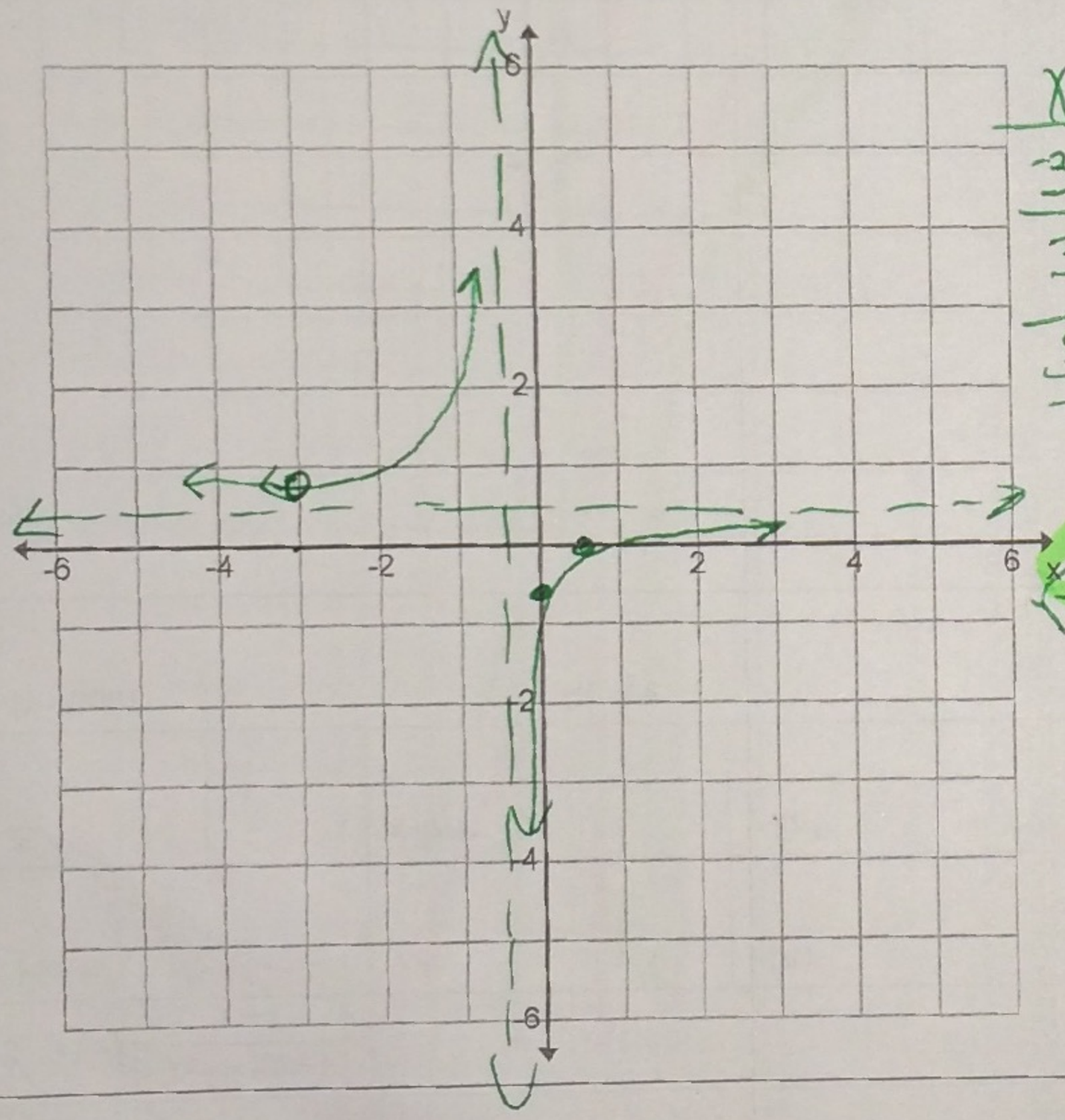


$f(6)=\frac{23}{11}$ $f(-6)=\frac{-37}{11}$

$f(-1)=\frac{-12}{-24}=\frac{1}{2}$ $f(-4)=\frac{-27}{-9}=3$ $f(4)=\frac{13}{-9}$

1. $f(x)=\dfrac{2x^2+5x-3}{5x^2+17x+6}=\dfrac{(x+3)(2x-1)}{(x+3)(5x+2)}=\dfrac{2x-1}{5x+2}$

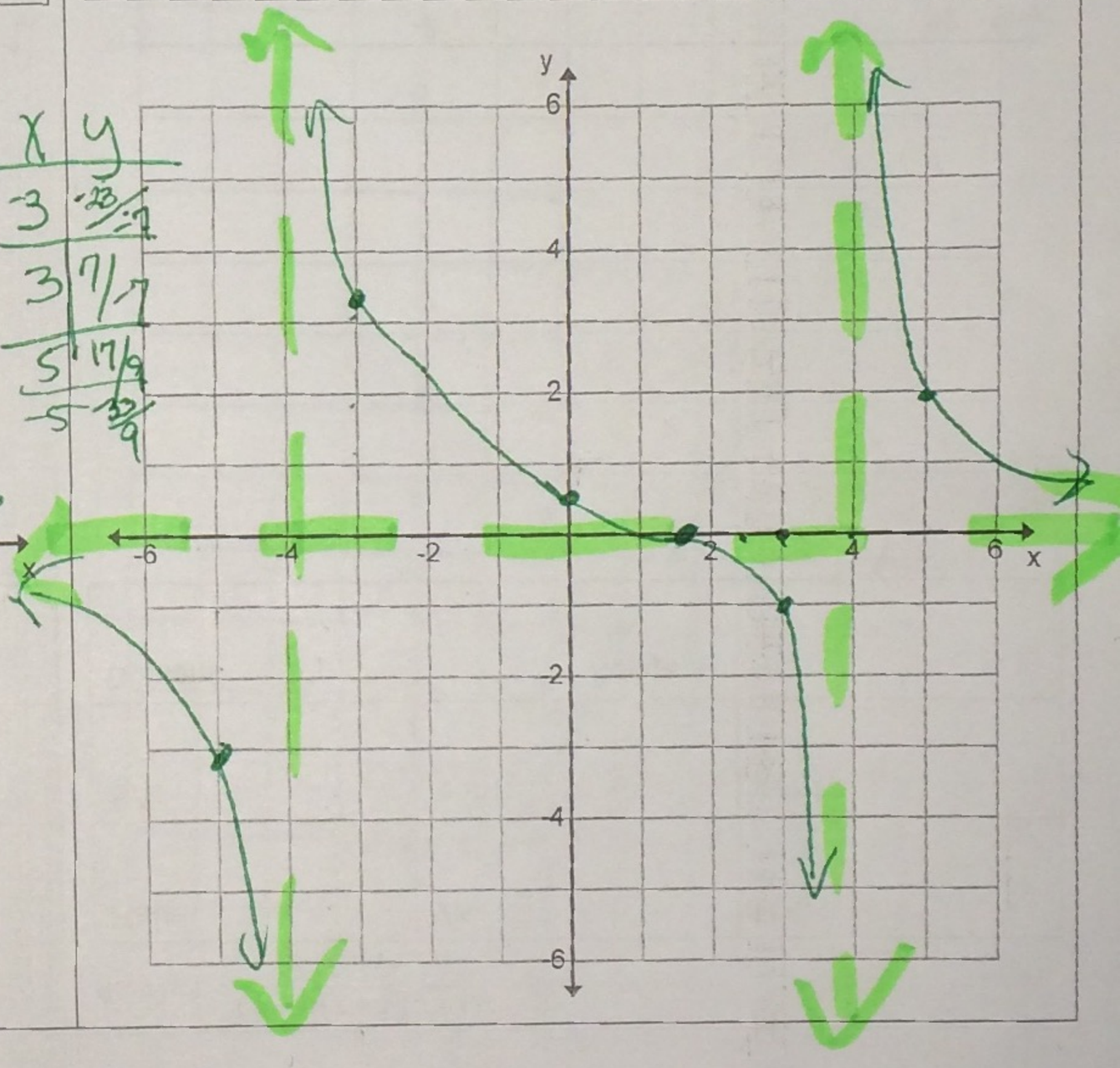
Hole:	VA:	HA:
$(-3, \frac{+2}{13})$	$x=\frac{-2}{5}$	$y=\frac{2}{5}$
SA:	**x-int:**	**y-int:**
no	$\frac{1}{2}$	$-\frac{1}{2}$
Domain:	**Range:**	
$\mathbb{R}\ x\neq -3, -\frac{2}{5}$	$\mathbb{R}\ y\neq \frac{7}{13}, \frac{2}{5}$	



2. $f(x)=\dfrac{5x-8}{x^2-16}=\dfrac{5x-8}{(x+4)(x-4)}$ $\quad 0=5x-8$

Hole:	VA:	HA:
no.	$x=4$, $x=-4$	$y=0$
SA:	**x-int:**	**y-int:**
NO	$\frac{8}{5}$	$\frac{1}{2}$.
Domain:	**Range:**	

x	y
-3	$-\frac{23}{7}$
3	$\frac{7}{-7}$
5	$\frac{17}{9}$
-5	$\frac{33}{9}$



ANSWER (F)

2

QUESTION (A)

$$\frac{4x^2-1}{2x^2-5x-3}\bullet\frac{x^2-6x+9}{2x^2+5x-3}$$

$\frac{-6}{6-1}$ $\frac{}{2}$ $\frac{}{2}$

$\frac{-6}{-6}$ $\frac{1}{2}$ $\frac{}{2}$

$$\frac{(2x+1)(2x-1)}{(x-5)(2x+1)}\cdot\frac{(x-5)(x-3)}{(x+3)(2x-1)}=\frac{x-3}{x+3}$$

ANSWER (E)

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

QUESTION (F)

$$\frac{x^2-25}{(x+5)^2}\div\frac{2x-10}{4x+20}$$

$$\frac{(x+5)(x-5)}{(x+5)(x+5)}\cdot\frac{4(x+5)}{2(x-5)}=2$$

ANSWER (D)

$$\frac{x^2+22x}{(x+3)(x-3)(x+2)}$$

QUESTION (F)

$$\frac{1}{x^2-2x-3}+\frac{1}{x^2-4x+3}$$

$\frac{x-1}{x-1}$ $\frac{x+1}{x+1}$

$(x-3)(x+1)$ $(x-1)(x-3)$

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

ANSWER (C)

$$\frac{1}{15(x+5)}$$

QUESTION (D)

$$\frac{5x}{x^2-9}+\frac{-4x}{x^2+5x+6}$$

$\frac{x+2}{x+2}$ $\frac{x-3}{x-3}$

$(x+3)(x-3)$ $(x+2)(x+3)$

$\frac{5x^2+10x+-4x^2+12x}{(x+3)(x-3)(x+2)}$

$\frac{x^2+22x}{(x+3)(x-3)(x+2)}$

ANSWER

(B)

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

QUESTION (C)

$$\frac{3}{3}\,\frac{7}{5x+25}+\frac{-4}{3x+15}\,\frac{5}{5}$$

$5(x+5)$ $3(x+5)$

$$\frac{21-20}{15(x+5)}=\frac{1}{15(x+5)}$$

ANSWER

(A)

$$\frac{x-3}{x+3}$$

QUESTION (B)

$$\frac{\frac{3}{x-4}}{\frac{x+1}{x^2-16}}=\frac{3}{x-4}\cdot\frac{(x+4)(x-4)}{x+1}$$

$$\boxed{\frac{3(x+4)}{(x+1)}}$$