

Sec 2.7 p 204 # 47-53 odd, 84-86

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

D:  $\{x \in \mathbb{R} \mid x \neq 0\}$

Vertical Asym:  $x=0$

Horizontal Asym: None  
 None b/c Deg num > Deg Den.

Slant Asym:  $y=2x$

X-int | Y-int

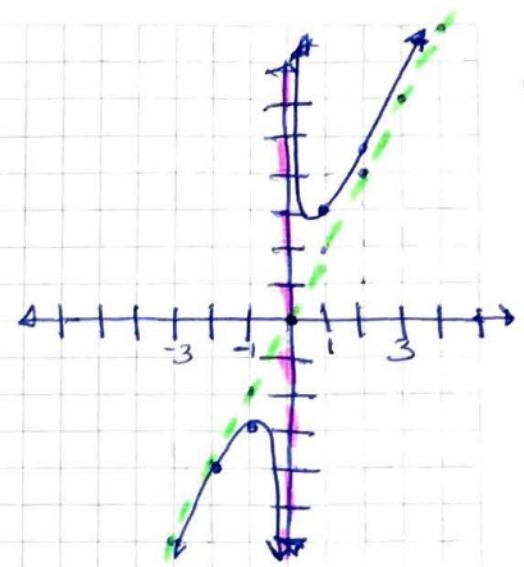
$0 = 2x^2 + 1$  |  $y = \frac{1}{0}$

$-1 = 2x^2$  | undef

$i\sqrt{1/2} = x$  |

imag.

X	Y
-2	-4.5
-1	-3
1	3
2	4.5



#49)  $h(x) = \frac{x^2}{x-1}$

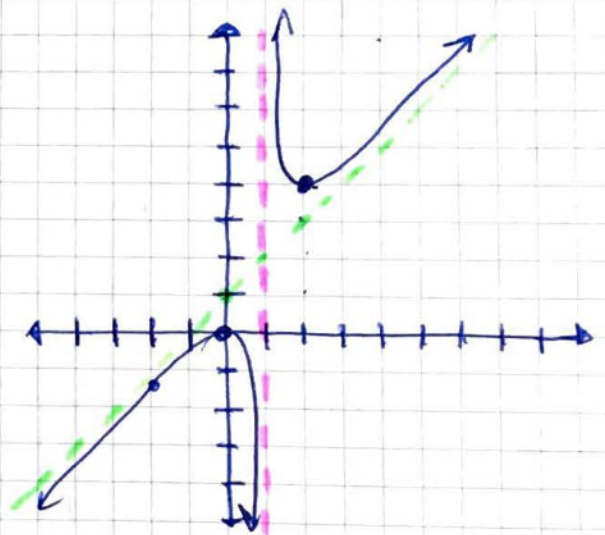
D:  $\{x \in \mathbb{R} \mid x \neq 1\}$

Vertical Asym:  $x=1$

Horizontal Asym: None  
 Deg num > Deg Den

Slant asym:  $y=x+1$

X	Y
-2	-1.33
2	4



Slant asym:  $y=x+1$

X-int | Y-int

$0 = x^2$  |  $y = \frac{1}{0}$

$0 = x$  |  $y=0$

$(0,0)$  |  $(0,0)$

1	1	0	0
	↓	1	1
1	1		

① Remainder Don't need

#51)  $g(x) = \frac{x^3}{2x^2-8} = \frac{x^3}{2(x+2)(x-2)}$

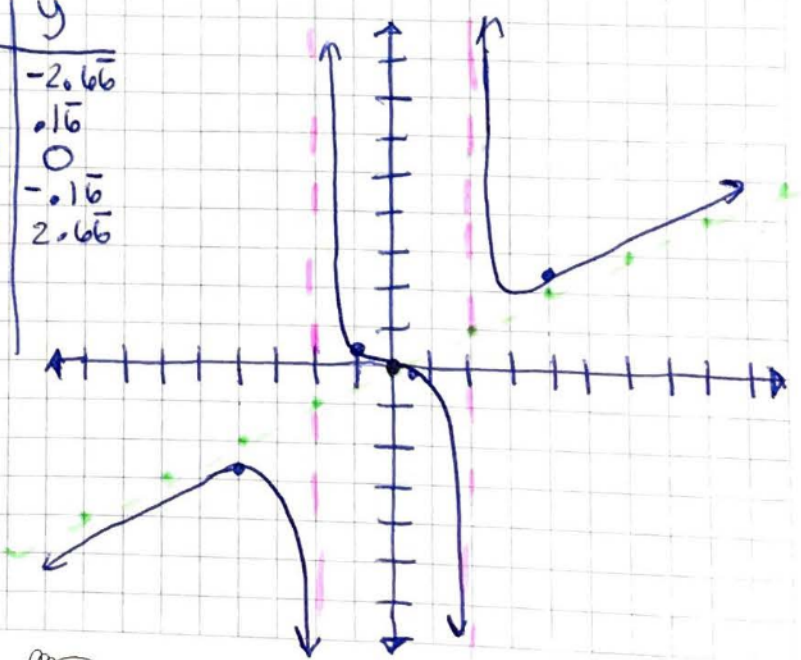
D:  $\{x \in \mathbb{R} \mid x \neq \pm 2\}$

Vertical Asym:  $x=2, x=-2$

Horizontal Asym: None  
 Deg num > Deg Den

Slant asym:  $y = \frac{1}{2}x$

X	Y
-4	-2.66
-1	.16
0	0
1	-.16
4	2.66



$2x^2(x-4) \overline{) \frac{1}{2}x^3 + 0x^2 + 0x + 0}$

$\frac{1}{2}x^3$

$\frac{x^3}{0}$

#53)  $f(x) = \frac{x^3 + 2x^2 + 4}{2x^2 + 1}$

D:  $\{x \in \mathbb{R}\}$

Vertical Asy: none

Horizontal Asy: none

Slant asym =  $y = \frac{1}{2}x + 1$

$$\begin{array}{r}
 2x^2 + 0x + 1 \overline{) x^3 + 2x^2 + 0x + 4} \\
 \underline{-x^3 - 0x^2 - \frac{1}{2}x} \phantom{+ 4} \\
 2x^2 - \frac{1}{2}x + 4 \\
 \underline{-2x^2 - 0x - 1} \\
 -\frac{1}{2}x + 5
 \end{array}$$

X-int (y=0) | Y-int (x=0)

use graphing Calc.  $y = \frac{0+0+4}{0+1}$

$(-2.59, 0)$   $y = 4$   
 $(0, 4)$

#84)

Vertical Asy:  $x = -1$

Horizontal Asy:  $y = 2$

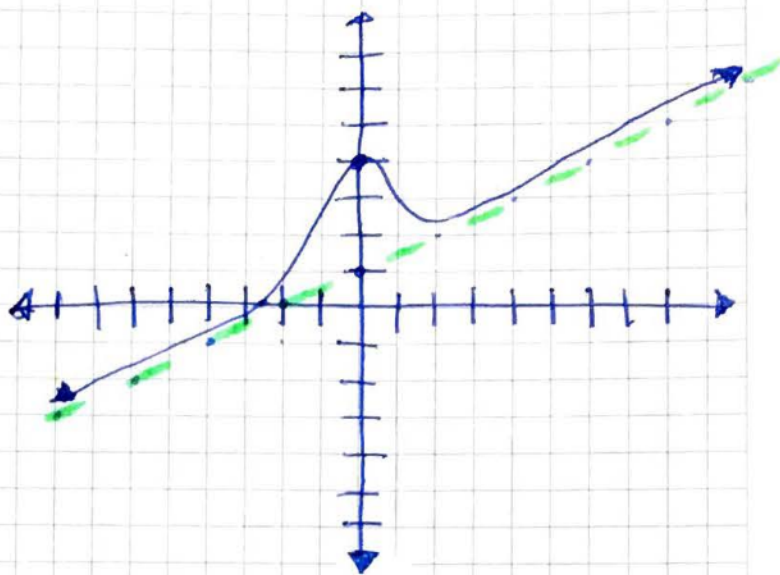
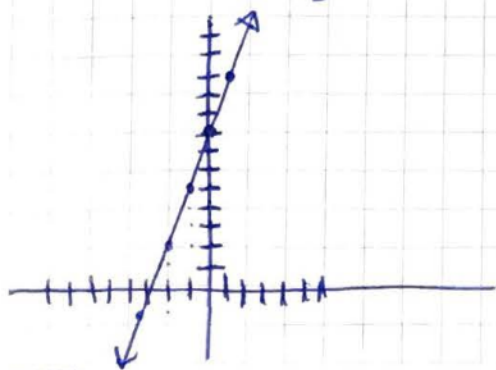
Zero of func:  $x = 3$

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

$$y = \frac{2x-6}{x+1}$$

#86)  $-y + 3x + 8 = 0$

$$3x + 8 = y$$



#85) Vertical Asy:  $x = 3$

Horizontal Asy:  $y = -2$

Zero of the Func:  $x = -6$

$$y = \frac{-2(x+6)}{(x-3)} = \frac{-2x-12}{x-3}$$