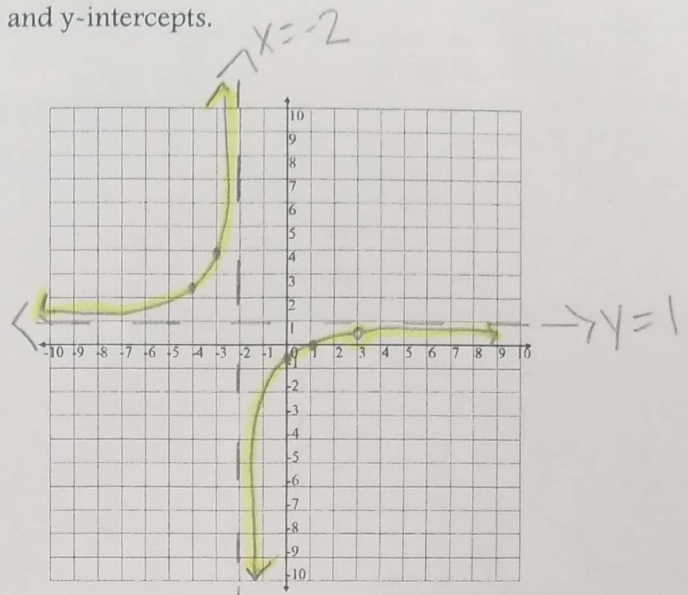


Graph Each Function and give the asymptotes, holes, x-intercepts and y-intercepts.

1. $f(x) = \frac{x^2 - 4x + 3}{x^2 - x - 6} = \frac{(x-3)(x-1)}{(x-3)(x+2)} = \frac{x-1}{x+2}$

Vertical Asymptote(s):	$x = -2$
Horizontal Asymptote(s):	$y = 1$ $\frac{1x^2}{1x^2} = \frac{1}{1} = 1$
Holes:	$(3, \frac{2}{5})$ $\frac{(3-1)}{(3+2)} = \frac{2}{5}$
X-intercept(s)	$(1, 0)$
Y-Intercept	$(0, -\frac{1}{2})$

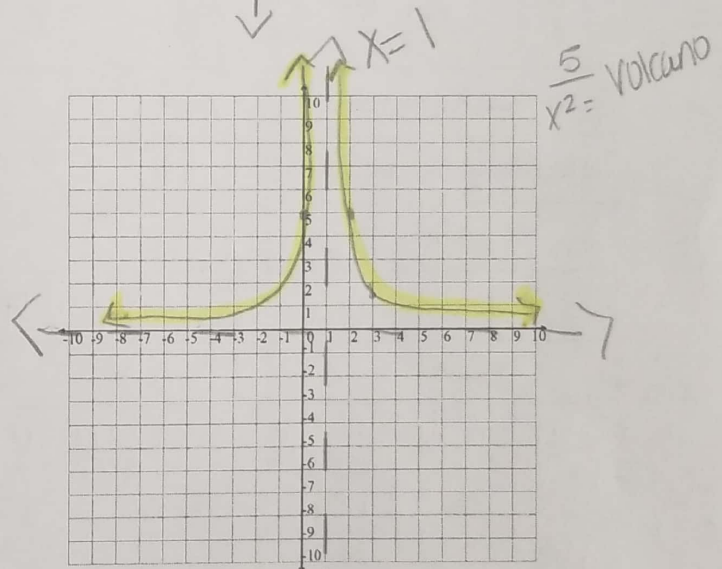
Extra Points: $(-3, 4)$
 $(-4, \frac{5}{2})$



2. $f(x) = \frac{5}{(x-1)^2}$

Vertical Asymptote(s):	$x = 1$
Horizontal Asymptote(s):	$y = 0$ $\frac{5}{x^2}$
Holes:	none
X-intercept(s)	none
Y-Intercept	$(0, 5)$

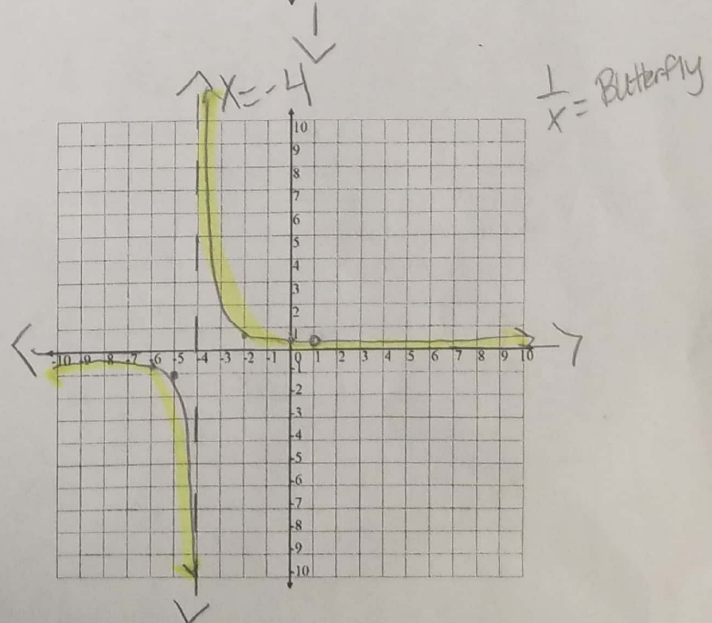
Extra Points: $(2, 5)$
 $(3, 1.25)$



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

Vertical Asymptote(s):	$x = -4$
Horizontal Asymptote(s):	$y = 0$ $\frac{x}{x^2}$
Holes:	$(1, \frac{1}{5})$ $\frac{1}{1+4} = \frac{1}{5}$
X-intercept(s)	none
Y-Intercept	$(0, \frac{1}{4})$

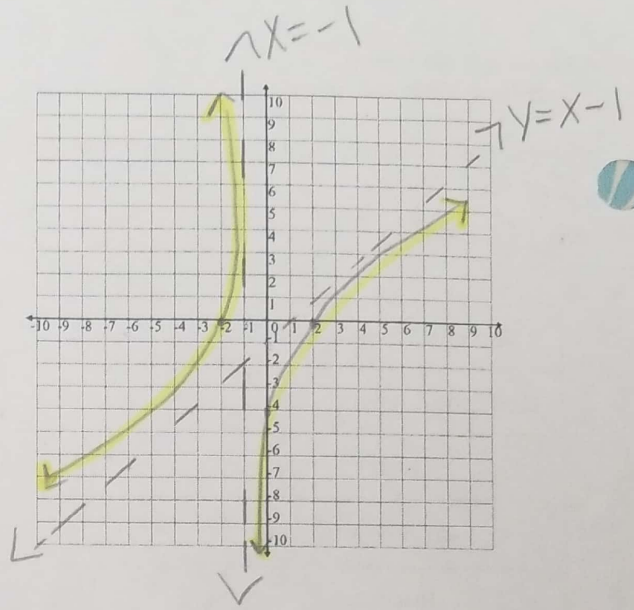
Extra Points: $(-6, -\frac{1}{2})$
 $(-5, -1)$
 $(-2, \frac{1}{2})$



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

Vertical Asymptote(s):	$X = -1$
Horizontal Asymptote(s):	none $\frac{x^2}{x}$
Holes:	none
X-intercept(s)	$(2,0)$ & $(-2,0)$
Y-Intercept	$(0,-4)$

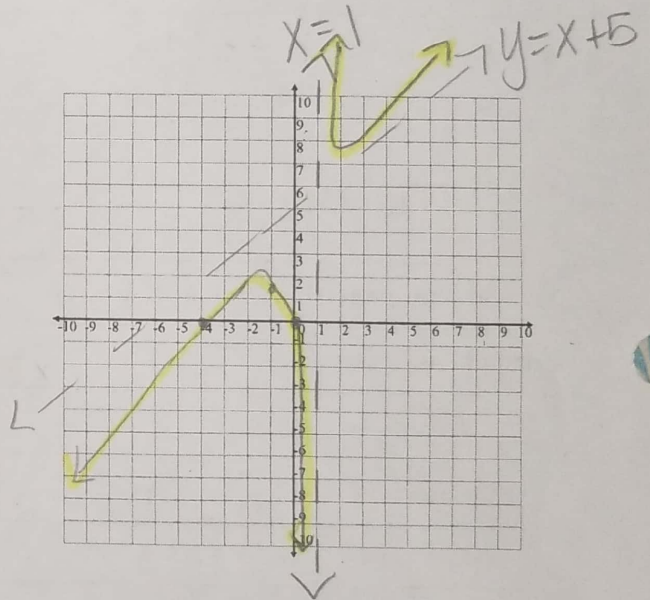
Slant: $\begin{array}{r} \underline{11} \ 1 \ 0 \ -4 \\ 1x-1 \ \underline{3} \end{array}$
 $y = 1x - 1$



$$5. f(x) = \frac{x^2+4x}{x-1} = \frac{x(x+4)}{(x-1)}$$

Vertical Asymptote(s):	$X = 1$
Horizontal Asymptote(s):	none
Holes:	none
X-intercept(s)	$(0,0)$ & $(-4,0)$
Y-Intercept	$(0,0)$

Slant: $\begin{array}{r} \underline{11} \ 1 \ 4 \ 0 \\ 1x-1 \ \underline{5} \end{array}$ Extra: $(-1, 1.5)$
 $y = 1x + 5$ Points: $(2, 12)$
 $(3, 10.5)$



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

Vertical Asymptote(s):	$X = -1$
Horizontal Asymptote(s):	$y = 1$ $\frac{1x^2}{1x^2} = \frac{1}{1} = 1$
Holes:	$(-2, 5)$ $\frac{(-2-3)}{(-2+1)} = \frac{-5}{-1} = 5$
X-intercept(s)	$(3, 0)$
Y-Intercept	$(0, -3)$

