

Determine the types of discontinuities that exist for the given functions. Sketch the graph.

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

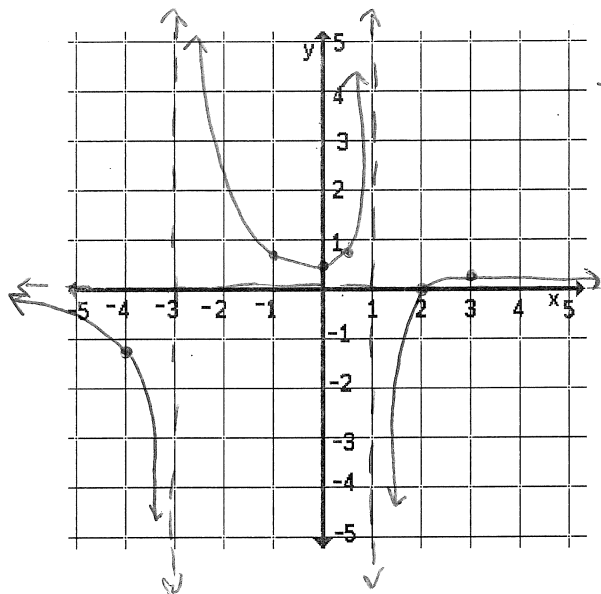
D: $x \neq -3, 1$

hole(s): none

VA: $x = -3, x = 1$

HA: $y = 0$

SA: none



x	y
2	0
3	1/2
-4	-6/5
-1	-3/4
0	-2/3
1/2	.8

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

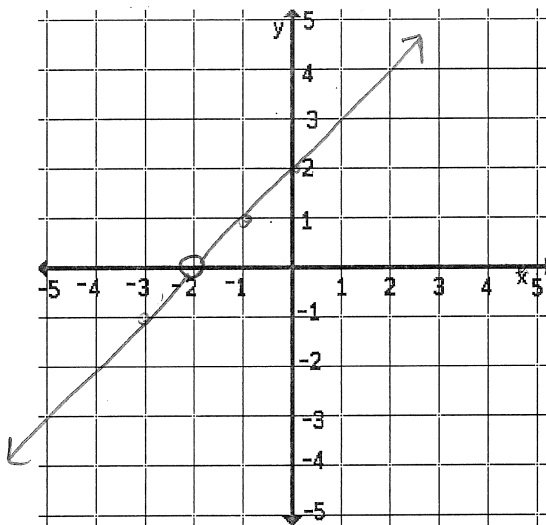
D: $x \neq -2$

hole(s): $(-2, 0)$

VA: none

HA: none

SA: none



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

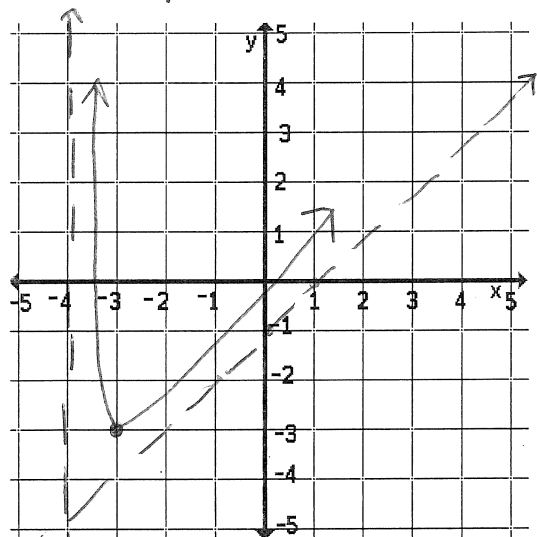
D: $x \neq -4$

hole(s): none

VA: $x = -4$

HA: none

SA: $y = x - 1$



x	y
-5	-7/3
-3	-7/3

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

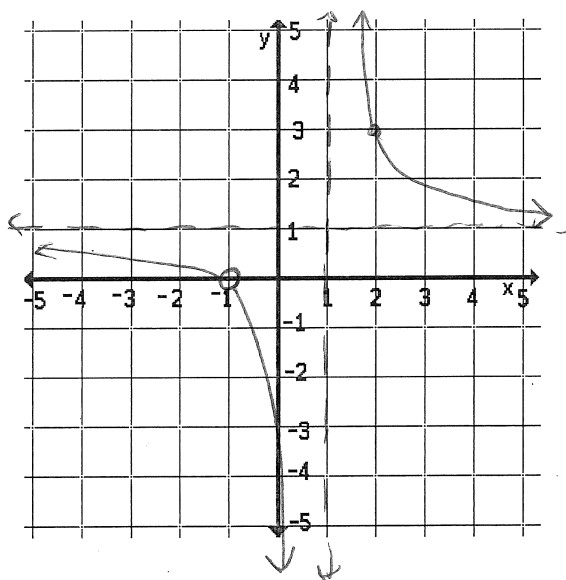
D: $x \neq 1, -1$

hole(s): $(-1, 0)$

VA: $x = 1$

HA: $y = 1$

SA: none



x	y
2	3