

3.4

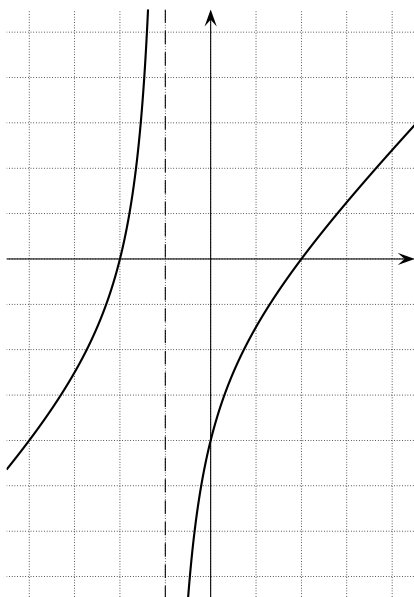
$$1) \lim_{x \rightarrow -1} f(x) = \lim_{x \rightarrow -1} \frac{x^2 - 4}{x + 1} = \frac{(-1)^2 - 4}{-1 + 1} = \frac{-3}{0} = \infty$$

$$\lim_{x \rightarrow -1} g(x) = \lim_{x \rightarrow -1} \frac{x^2 - 4}{x^2 + 2x + 1} = \frac{(-1)^2 - 4}{(-1)^2 + 2 \cdot (-1) + 1} = \frac{-3}{0} = \infty$$

- 2) Étudions le signe des fonctions f et g , afin de déterminer la position de leur graphe par rapport à l'axe des abscisses :

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

		-2	-1	2			
$x - 2$		-	-		-		+
$x + 2$		-	+		+		+
$x + 1$		-	-		+		+
f		-	+		-		+

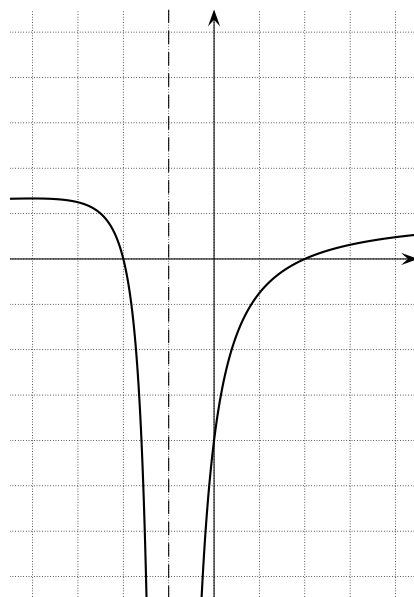


$$\lim_{\substack{x \rightarrow -1 \\ x < -1}} f(x) = +\infty$$

$$\lim_{\substack{x \rightarrow -1 \\ x > -1}} f(x) = -\infty$$

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

		-2	-1	2			
$x - 2$		-	-		-		+
$x + 2$		-	+		+		+
$(x + 1)^2$		+	+		+		+
g		+	-		-		+



$$\lim_{\substack{x \rightarrow -1 \\ x < -1}} g(x) = -\infty$$

$$\lim_{\substack{x \rightarrow -1 \\ x > -1}} g(x) = +\infty$$