Representa las siguientes funciones. Para ello de cada una tienes que calcular:

a) Dominio.
b) Corte con los ejes.
c) Simetrías.
d) Comportamiento en los extremos / Asíntotas.
e) Intervalos de monotonia (crecimiento, decrecimiento), máximos y mínimos locales.
f) Curvatura (concavidad, convexidad), puntos de inflexión

A) $f(x) = x^3 - 6x^2 + 9x$

B) $f(x) = x^4 - 4x^2$

C) $f(x) = \dfrac{x-1}{x+1}$

D) $f(x) = \dfrac{x^2+1}{x}$

E) $f(x) = \dfrac{1}{x^2+1}$

F) $f(x) = \dfrac{4x}{x^2+4}$

G) $f(x) = \dfrac{x^2}{1+x^2}$

H) $f(x) = \dfrac{x}{x^2-1}$

I) $f(x) = \dfrac{x^2}{x^2-1}$

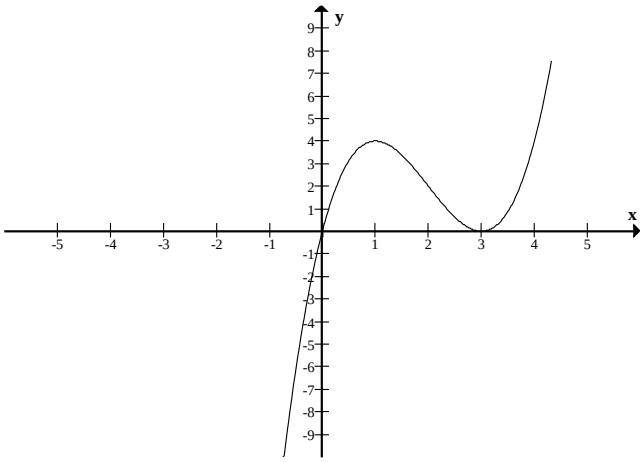
J) $f(x) = Ln(x+2)$

K) $f(x) = Ln(x^2-4)$

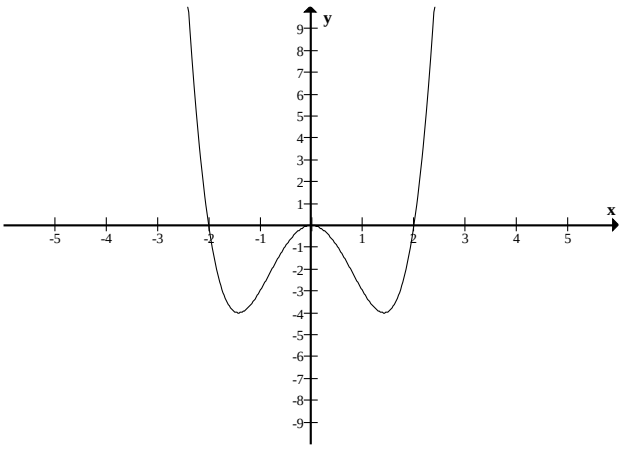
L) $f(x) = e^x(x-1)$

SOLUCIONES

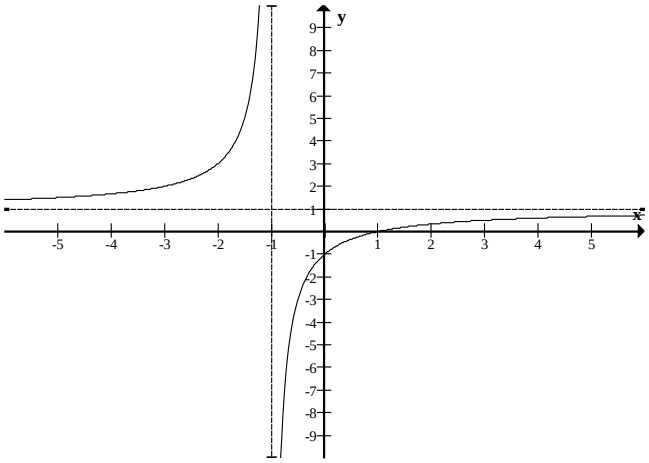
1) a) $f(x) = x^3 - 6x^2 + 9x$



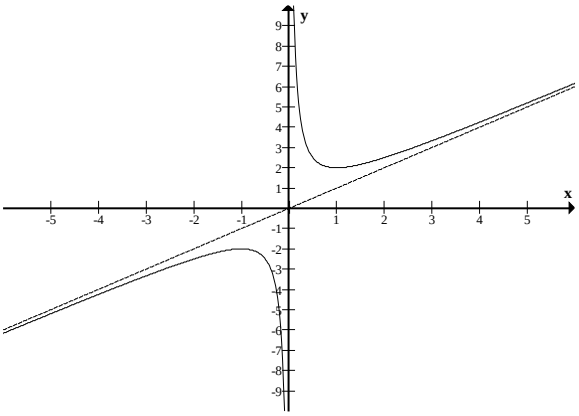
b) $f(x) = x^4 - 4x^2$



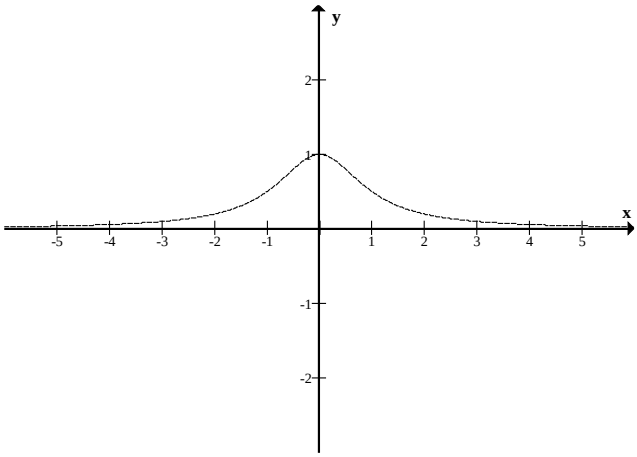
c) $f(x) = \dfrac{x-1}{x+1}$



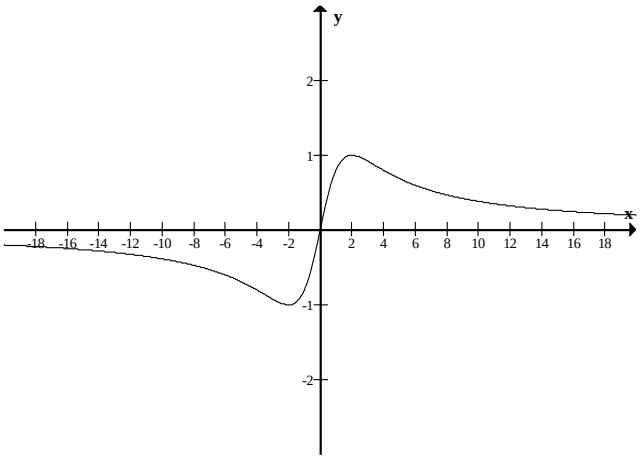
d) $f(x) = \dfrac{x^2+1}{x}$



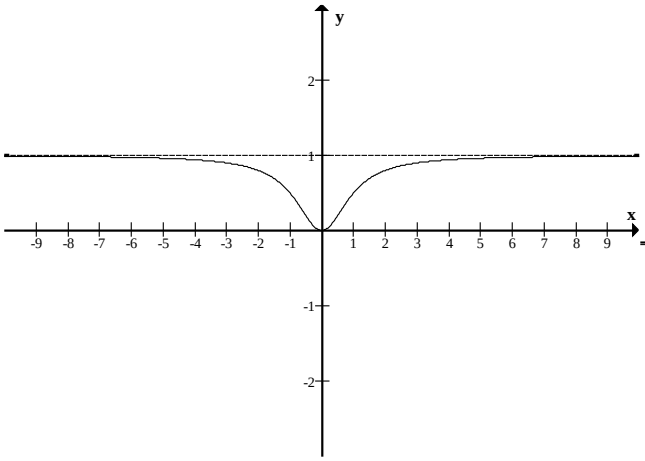
e) $f(x) = \dfrac{1}{x^2+1}$



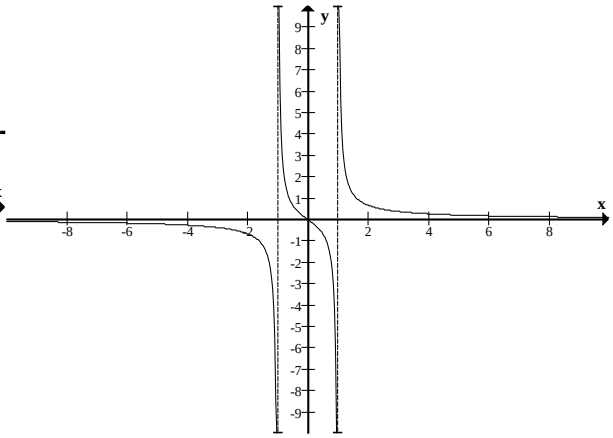
f) $f(x) = \dfrac{4x}{x^2+4}$



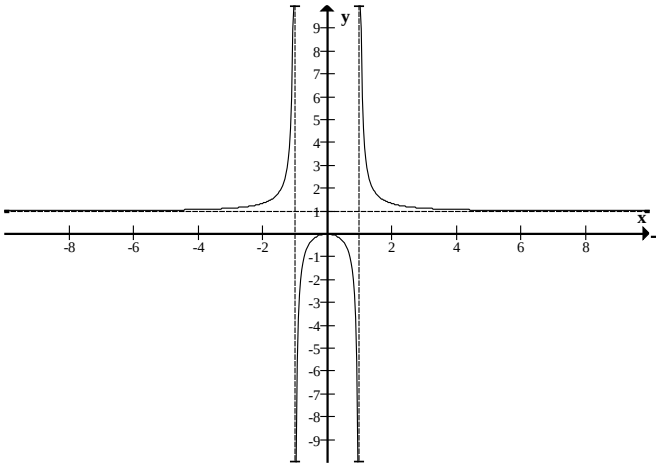
g) $f(x) = \dfrac{x^2}{1+x^2}$



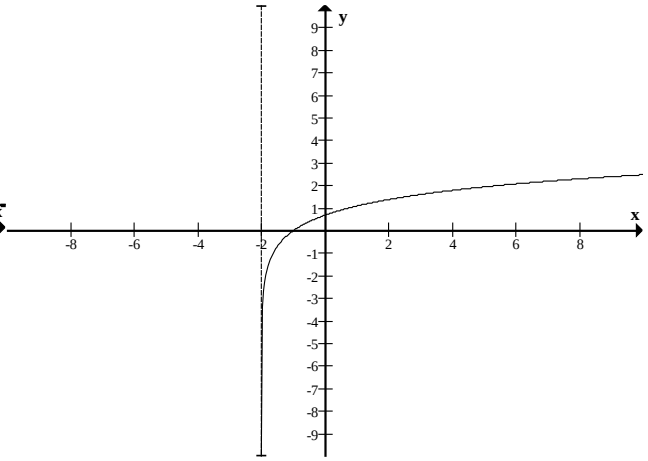
h) $f(x) = \dfrac{x}{x^2-1}$



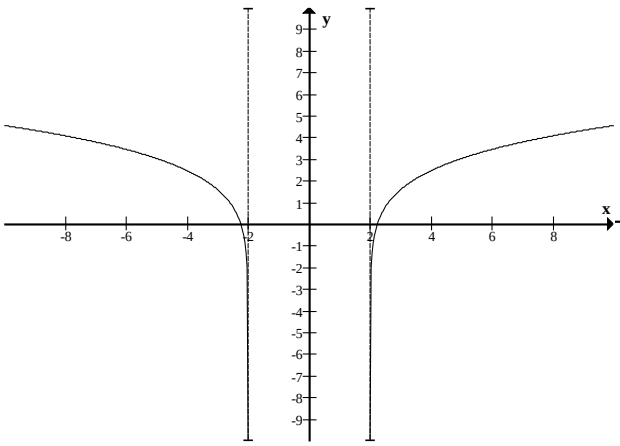
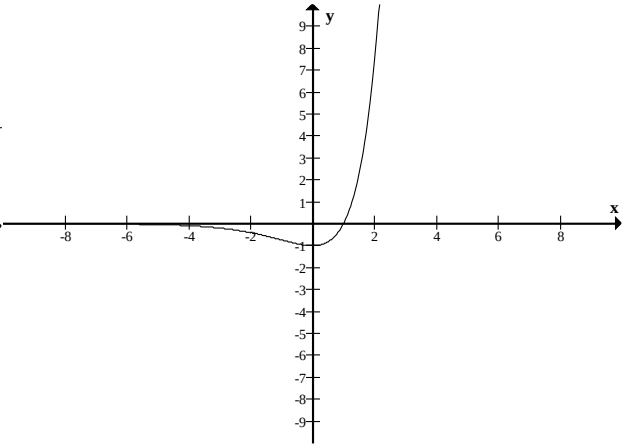
i) $f(x) = \dfrac{x^2}{x^2-1}$



j) $f(x) = \mathrm{Ln}(x+2)$



k) $f(x) = \mathrm{Ln}(x^2-4)$



l) $f(x) = e^x(x-1)$