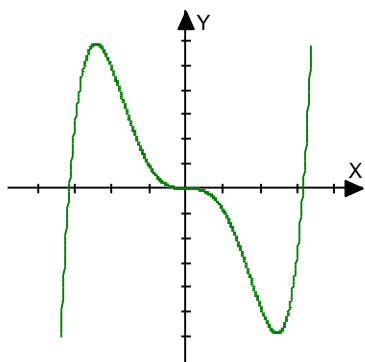
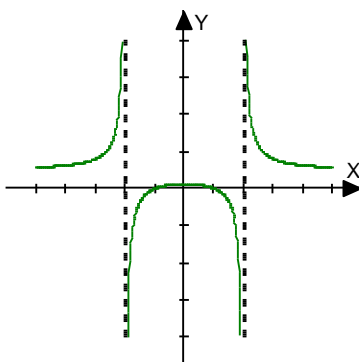


Sample functions to analyze

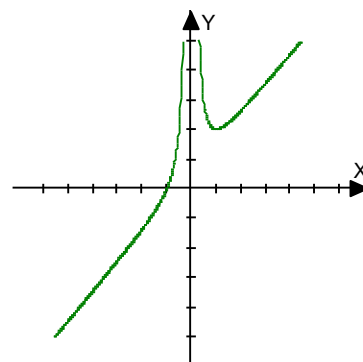
Perform a full analysis of the graphical features of the functions shown below and check that they match the graph shown. Also, identify the scale on each axis.



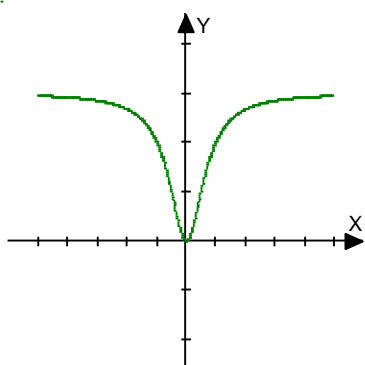
A) $y = x^5 - 10x^3$



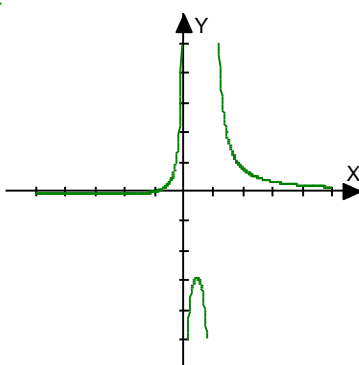
B) $y = \frac{x^2 - 1}{x^2 - 4}$



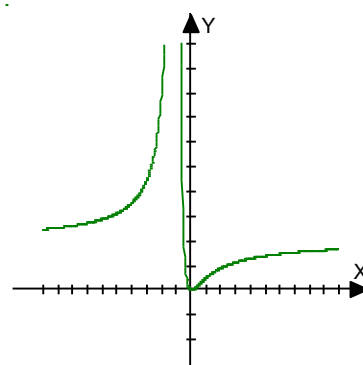
C) $y = \frac{2x^3 + x^2 + 1}{x^2}$



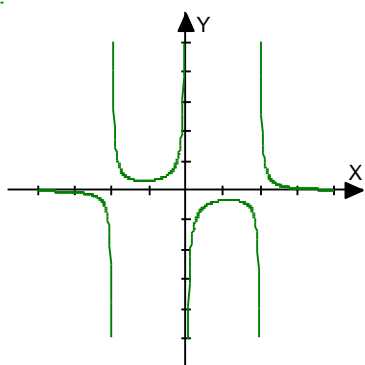
D) $y = \frac{3x^2}{2x^2 + 1}$



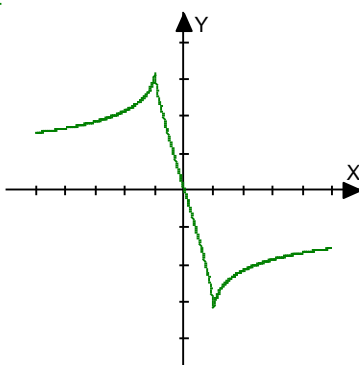
E) $y = \frac{x+1}{x^2 - x}$



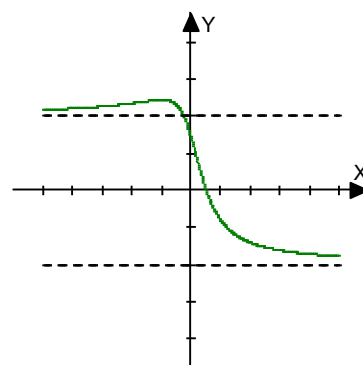
F) $y = \frac{2x^2}{(x+1)^2}$



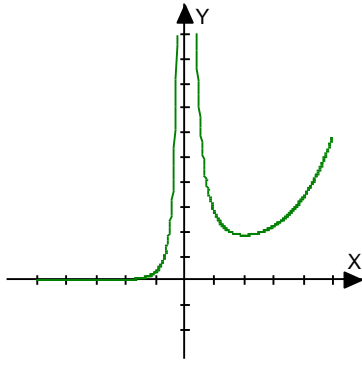
G) $y = \frac{1}{x^3 - 4x}$



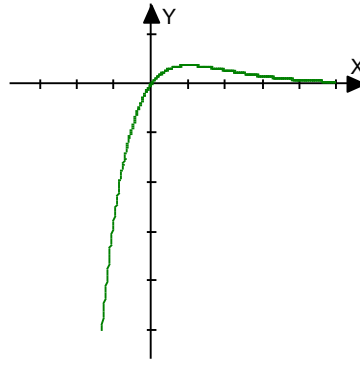
H) $y = (x-1)^{2/3} - (x+1)^{2/3}$



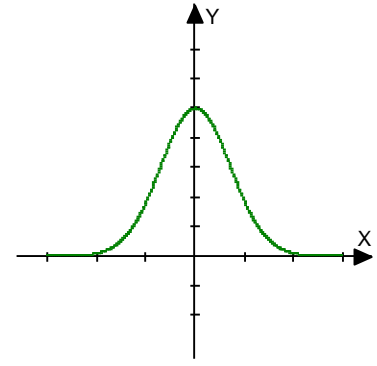
I) $y = \frac{1-x}{\sqrt{x^2 + 2}}$



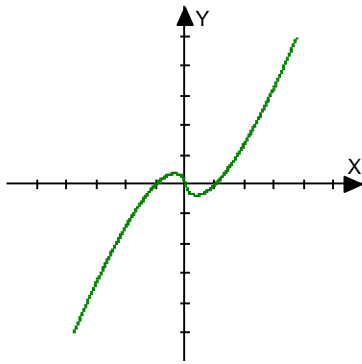
J) $y = e^x x^{-2}$



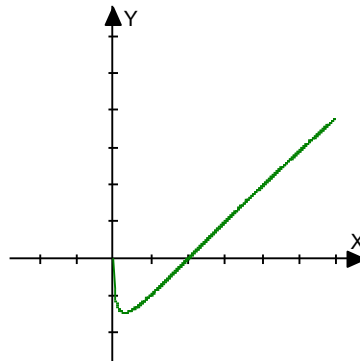
K) $y = x e^{-x}$



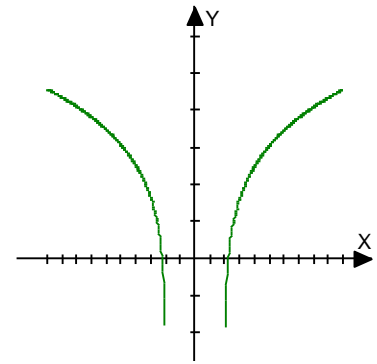
L) $y = e^{-x^2}$



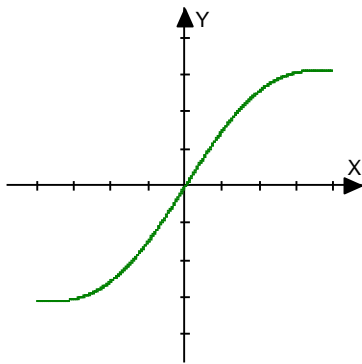
M) $y = x \ln x^2$



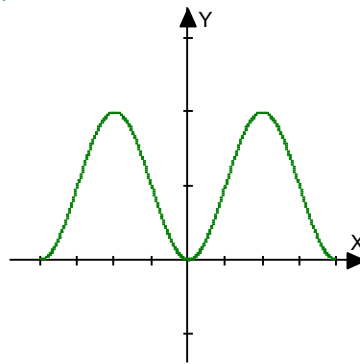
N) $y = \sqrt{x} \ln x$



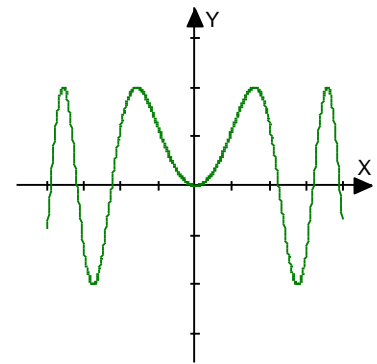
O) $y = \ln(x^2 - 4)$



P) $y = x + \sin x$



Q) $y = \sin^2 x$



R) $y = \sin x^2$

Now analyze the following functions in the similar way and arrive at an accurate graph.

a) $y = x^3 - 5x$ b) $y = x^4 - 3x^2 - 6$ c) $y = 4x^5 - 6x^3$ d) $y = \frac{x^2 - 2}{x + 1}$ e) $y = \frac{3x^2 - 1}{x^3}$

f) $y = \frac{x^2 - 4}{x^3 + 1}$ g) $y = \frac{x^3 + 1}{x^2 - 4}$ h) $y = \frac{3x}{2x^3 - 8x}$ i) $y = \frac{5x^2}{2x^2 + x + 1}$ j) $y = \frac{2x^3}{(x + 1)^3}$

k) $y = (x^2 - 9)^{1/3}$ l) $y = (x^2 - 4)^{2/3}$ m) $y = \frac{x}{\sqrt{x^2 - 4}}$ n) $y = x^2 e^{-x}$ o) $y = e^{x^2 - 2x}$

p) $y = 2x \ln x$ q) $y = x^{-1} \ln x$ r) $y = x^2 \ln x$ s) $y = x \sin x$ t) $y = \sin x \cos x$