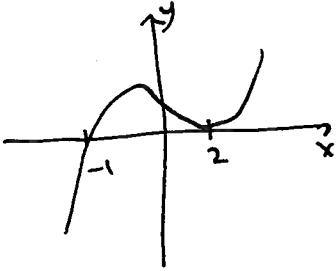


Name: KEY

Show all work, clearly and legibly, to receive full credit. Correct spelling, organization of your solution, and proper use of mathematical notation all count. You may use a stand-alone graphing calculator, but not any internet-based calculators. No notes, books, or other additional resources are permitted. Good luck!

1.) (4 pts.) Let $g(t) = (t + 1)(t - 2)^2$. Is g even, odd, or neither? Justify your answer using algebra or a graph, along with a sentence or two of explanation.



Not symmetric with respect to y -axis,
so not even

Not symmetric with respect to origin
(180° rotation), so not odd

→ Neither

Even: $g(-t) = g(t)$

Odd: $g(-t) = -g(t)$

2.) (4 pts.) Let $f(x) = e^x$.

a.) What is the domain of f ?

$(-\infty, \infty)$

b.) What is the range of f ?

$(0, \infty)$

any rotation is fine

3.) (2 pts.) Distribute (that is, simplify by writing an equivalent expression having no parentheses): $xyz(x + z)$.

$x^2yz + xyz^2$