

Do not use a graph to justify your answers!

For the function $f(x) = x^3 + 12x^2 + 45x$, find

1. the interval(s) where f is concave/up down (4 pts)
2. point(s) of inflection [Hint: you did all the work in part #1] (2 pts)
3. the absolute maximum and minimum on $[-4, 4]$ (4 pts)